



# County Palatine of Chester.

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## REPORT

of the

## Medical Officer of Health,

For the Year 1928.

.....

BY

MEREDITH YOUNG, M.D., D.P.H.,

Of Lincoln's Inn, Barrister-at-Law.

.....

Presented to the

Public Health and Housing Committee,

OF THE COUNTY COUNCIL,

October 18th, 1929.

.....

CHESTER

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*Extract from the Report of the Chief Medical Officer of the Ministry of Health (Sir Geo. Newman), for the year 1928:—*

“When we think of the public health service in England we must include within our conception of it the sphere of the whole physical life of man and everything which affects it, prolonging and enlarging it, or shortening and restricting it. But we must also visualise this conception as safeguarded or directed by a comprehensive system of law, bye-law and regulation, exercised by central and local authority working together, administered partly by a vast number of elected voluntary representatives, and partly by a substantial number of medical advisers and trained sanitary and health officers. Human knowledge and experience are, in this way, to be brought to bear upon the great primary problem of personal and national survival.

- (a) How is an imperial race to be reared?
- (b) How are children to be so nurtured as to grow up into healthy and productive adults?
- (c) How are healthy men and women to retain their physical and mental health and grow in grace, knowledge and capacity?
- (d) How are the sick and diseased to be treated in such a way as may return them, healed, as soon as possible, to the ranks of the workers and breadwinners?
- (e) How, in the last resort, is disease to be *prevented*?
- (f) How are dysgenic forces (which are undermining racial health) to be defeated and human existence controlled?

These are the questions to which every State, and every Local Authority, must address itself. They are national questions for all nations, imperial questions for all parts of the British Empire, they become indeed international questions. That State, and that Authority,

REPORT  
OF THE  
Medical Officer of Health,  
For the Year ending December 31st, 1928.

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*To the Public Health and Housing Committee of the  
County Council of the County Palatine of Chester  
and to the Members of the County Council.*

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## INTRODUCTORY NOTES.

*To the Chairman and Members of the  
Public Health Committee of the  
Cheshire County Council.*

MR. CHAIRMAN AND GENTLEMEN,

I beg to present my Annual Report on the health of the County for the twentieth time. During this long period very many changes have taken place in connection with the matters under your jurisdiction. To enumerate these would only be of historical interest and, moreover, they are within the recollection of the majority of your members. I think it is not going too far to say that the chief change which has come into this Department during the period mentioned is that which has converted its work from the environmental to the personal. Your Council still remain the consulting and supervising authority on matters of environment such as water-supply, sewerage and drainage, housing and sanitation generally, but your chief responsibility has gradually come to be the care of those members of your public who need assistance for such things as tuberculosis, venereal disease, blindness, infectious diseases, and, as in other spheres, for the care of mothers and infants, mental defectives, cripples and so on.

This sphere of prevention and cure of disease is bound to increase and if there is one direction more than another in which I hope you will be called on to play a part it is in connection with cancer and malignant disease. On this subject I have written at some length in the body of this Report.

Advances have been made in many directions during the year both by your Council and by the several Local Authorities in the County.

I have alluded in the Report to a number of matters which require the attention of District Councils and steps are being taken to stimulate and assist local activities.

I wish once more to place on record my very cordial thanks to your Council, to all my colleagues in the service and to all the staff of the Public Health Department for valued assistance—always given willingly and in an admirable spirit.

I have the honour to be,  
Mr. Chairman and Gentlemen,  
Yours obediently,  
MEREDITH YOUNG.

43, Foregate Street,  
Chester,  
October, 1929.

## Staff of the Public Health Department.

County Medical Officer of Health and ...	Meredith Young, M.D., D.P.H., Barrister- at-Law.
Chief School Medical Officer	
Lady Assistant Medical Officer	... Jean R. Shaw, M.B., Ch.B., D.P.H.
District Tuberculosis Officers ...	... J. Hague, M.R.C.S., L.R.C.P., D.P.H. L. I. Henzell, M.D., B.Sc., D.P.H. D. W. Tough, M.B., Ch.B., D.P.H.
Assistant School Medical Officers	... A. V. Stocks, M.B., Ch.B., D.P.H. W. J. McIvor, M.B., Ch.B., D.P.H. M. D. Sheridan, M.B., Ch.B. J. C. King, M.B., Ch.B.
School Dental Surgeons	... S. Whitworth, L.D.S. S. O. Stewart, L.D.S. H. R. Parry, L.D.S. L. N. Alley, L.D.S. A. F. Heley, L.D.S. E. S. Butt, L.D.S.
School Oculists (Part-time)	... E. N. Hughes, M.R.C.S., L.R.C.P. C. Jacobs, M.D., M.B., B.S.
County Sanitary Officer	... F. Humphries.

## Health Visitors (37),

<i>Name.</i>	<i>Approximate District.</i>	<i>Maternity Centres. Tuberculosis Dispensaries. School Clinics.</i>
Barker, G.	... Mottram, Broadbottom, Tintwistle	Hollingworth Centre.
Bird, B.	... Runcorn, Weston Point, Weston	Runcorn Centre (2 days) Runcorn Dispensary. Runcorn School Clinic (daily).
Bradley, C.	.. Bredbury, Romiley, Woodley	Bredbury Centre. Hyde Dispensary.
Carr, K. E.	... Bebington, Bromborough, New Ferry, Thornton, Willaston, Burton, Neston	Neston Centre. Birkenhead Dispensary.
Commins, C.	... Poynton, Bollington, Rainow, Prest- bury, Sutton, Winche, Adlington, Macclesfield Forest	Bollington Centre.
Davies, J.	... Nantwich, Calveley, Worleston, Church Minshull, Wettenhall, Warmingham, Acton	Nantwich Centre. Nantwich School Clinic (daily). Utkinton Centre.
Vacancy	... Chelford, Henbury, Siddington, Gawsworth, Marton, North Rode, Swettenham, Goostrey, Ollerton, Withington, Eaton, Peover	Swettenham Centre. Macclesfield Dispensary.

HEALTH VISITORS—*Continued.*

<i>Name.</i>	<i>Approximate District.</i>	<i>Maternity Centres.</i>
		<i>Tuberculosis Dispensaries.</i> <i>School Clinics.</i>
Dickson, S.	... Marple, Disley, Yeardsley, Kettleshulme	Marple Centre. Disley Centre. Whaley Bridge Centre. Compstall Centre.
Dobie, A.	... Guilden Sutton, Barrow, Ashton, Tarvin, Kelsall, Duddon, Utkinton, Tarporley, Tiverton, Tilston, Mouldsworth	Chester Castle Centre.
Finger, G. F.	... Congleton, Buglawton, Astbury, Odd Rode, Rode Heath, Church Lawton	Congleton Centre. Congleton Dispensary.
Fox, M. E.	... Middlewich, Cranage, Byley, Wimboldsley, Tetton	Middlewich Centre.
Griffiths, E.	... Hazel Grove, Bramhall, Handforth, Pownall Green	Hazel Grove Centre. Stockport Dispensary.
Hanson, A.	... Stalybridge Borough	Stalybridge Centre (2 days).
Jones, A.	... Haslington, Alsager, Weston, Barthomley, Wybunbury, Doddington, Checkley	Crewe Dispensary
Kidd, W.	... Northwich, Winnington, Marston, Acton, Crowton, Barnton, Wincham	Northwich Dispensary. Northwich School Clinic (daily). Owley Wood Centre.
Kidd, E.	... Knutsford, Mere, Tabley, Lostock, Rudheath, Pickmere	Northwich Clinic.
Lunt, M.	... Ellesmere Port, Eastham, Childer Thornton, Great Sutton, Little Sutton	Ellesmere Port Dispensary.
Meadows, R.	... Lymm, Warburton, Partington, Thelwall, High Legh	Lymm Centre. Lymm School Clinic
McNiel, M. A.	... Runcorn, Halton	Runcorn Dispensary Runcorn Centre (2 days). Runcorn Clinic (daily)
Merry, A.	... Willaston, Wistaston, Stapeley, Hatherton, Hankelow, Audlem, Buerton, Wrenbury, Bickerton, Cholmondeley, Bunbury, Shavington, Peckforton	
Ollerenshaw, E.	... Dukinfield Borough	Dukinfield Centre (2 days).
Owen, Esme	... Sandbach, Wheelock, Hassall, Betchton, Smallwood, Brereton, Holmes Chapel	Sandbach Centre.
Owen, Elizabeth	... Hoylake, West Kirby, Meols, Greasby, Upton, Caldby, Thurston, Heswall, Barnston	Hoylake Centre. West Kirby Dispensary. Heswall Centre.
Powell, C.	... Hoole, Christleton, Waverton, Great Saughall, Backford, Mickle Trafford, Huxley, Hargrave, Tattenhall, Burwardsley, Harthill	Chester Dispensary. Hoole Centre.



HEALTH VISITORS—*Continued.*

Name.	Approximate District.	<i>Maternity Centres.</i>	
		<i>Tuberculosis Dispensaries.</i>	<i>School Clinics.</i>
Rimmer, A. A.	... Runcorn, Clifton ...	Runcorn Centre. Runcorn Dispensary. Runcorn Clinic.	
Ross, M.	... Ashton-on-Mersey, Sale, Carrington	Sale Centre (2 days) Sale Clinic.	
Rushton, S.	... Dukinfield Borough ...	Dukinfield Centre (2 days).	
Randles, J. G.	... Sale ...	Sale Centre (2 days).	
Smith, A.	... Eccleston, Dodleston, Saughton, Rowton, Aldford, Handley, Farn- don, Pulford, Churton, Clutton, Hatton		
Vacancy	... Altrincham, Timperley, Dunham Massey, Rostherne, Ashley, Bowdon, Ringway	Altrincham Dispensary.	
Taylor, E. S.	... Stockton Heath, Grappenhall, Moore, Daresbury, Appleton, Stretton, Preston Brook, Dutton, Whitley	Stockton Heath Centre.	
Toft, D.	... Shocklach, Malpas, Tilston, Bick- ley, Cuddington, Wirswall, Marbury	Malpas Centre.	
Turcan, C.	... Ince, Thornton, Dunham, Alvanley, Frodsham, Norley, Kingsley		
Venables, M.	... Wilmslow, Alderley Edge, Mobber- ley, Woodford, Mottram, Styal		
Ward, S.	... Cheadle, Gatley, Cheadle Hulme, Northenden		
Wells, G.	... Winsford, Over, Wharton, Hart- ford, Davenham, Moulton, Cudd- ington, Delamere, Little Budworth	Northwich Dispensary. Northwich Clinic. Winsford Dispensary.	
Wilkinson, M.	... Stalybridge Borough ...	Stalybridge Centre (2 days).	

## Dental Nurses.

Babbington, D.  
Jones, Ethel  
Jones, S.

Thompson, D.  
Toft, Ethel  
Watts, G. M.

Superintendent Clerk ... Vincent O'Connor.

Offices—43, Foregate Street, Chester. Telephone No. 1017.



# REPORT OF THE Medical Officer of Health,

For the Year ended December 31st, 1928.

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## Section I.—Area and Population.

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### Area.

In the Census Report of 1911 this is given as 640,823 acres and in the Census Report 1921 as 640,791 acres.

The present acreage, after the Wallasey and Birkenhead extensions, is 636,740.

*Note.*—The Registrar-General supplies this Department and the Medical Officers of Health with certain figures direct, and the information given in this Report is based on such figures. Some Medical Officers do not accept the figures supplied by the Registrar-General, and their birth and death-rates do not coincide with the figures in my Reports, but I am, of course, bound to adopt the official figures.

In the Table accompanying this Report particulars relating to population, area, births, deaths, &c., are given for each District separately and for the County as a whole. A brief reference may be made to the more important of these figures.

### Population.

The population of the Administrative County, as enumerated at the Census of 1921, was 625,001. The estimate of the Registrar-General for 1928 is:—

6 Municipal Boroughs ...	...	170,940
33 Other Urban Districts ...	...	285,600
12 Rural Districts ...	...	206,740
		<hr/>
		663,280
		<hr/>

Urban Districts. (33)	Population at Census, 1921.	Population supplied by Registrar- General, 1928.	Area in Acres.
Alderley Edge ...	3088	3069	678
Alsager ...	2693	2840	2241
Altrincham ...	20450	21780	1425
Ashton-upon-Mersey ...	7773	8153	1623
Bebington and Brom- borough ...	19104	23720	3446
Bollington ...	5094	5361	1291
Bowdon ...	2965	2978	850
Bredbury and Romiley	9168	10030	3990
Buglawton ...	1572	1871	2911
Cheadle and Gatley ...	11036	14840	5087
Compstall ...	944	922	903
Ellesmere Port and Whitby ...	13063	17580	3449
Hale ...	9300	9898	1288
Handforth ...	904	1100	1311
Hazel Grove & Bramhall	10127	11900	5447
Hollingworth ...	2466	2345	2086
Hoole ...	5994	5740	334
Hoylake & West Kirby	17068	17790	1979
Knutsford ...	5415	4945	1760
Lymm ...	5283	5790	4374
Marple ...	6608	6951	3055
Middlewich ...	5115	5646	1082
Mottram in Longdendale	2883	2776	1084
Nantwich ...	7296	7148	703
Neston and Parkgate ...	5195	5485	3331
Northwich ...	18381	18870	1398
Runcorn ...	18476	18700	1274
Sale ...	16329	16460	2006
Sandbach ...	5864	6132	2694
Tarporley ...	2518	2427	6195
Wilmslow ...	8282	9436	5090
Winsford ...	10956	11300	5778
Yeardsley-cum-Whaley	1699	1617	1323
	263109	285600	81486



Rural Districts. (12)	Population at Census, 1921.	Population supplied by Registrar- General, 1928.	Area in Acres.
Bucklow ... ..	22149	24760	56806
Chester ... ..	13365	15870	34253
Congleton ... ..	13219	13260	40152
Disley ... ..	3022	3093	2466
Macclesfield ... ..	17045	19330	79494
Malpas ... ..	4465	4432	21405
Nantwich ... ..	25015	26400	98466
Northwich ... ..	24436	26260	54307
Runcorn ... ..	28934	30580	49117
Tarvin ... ..	13390	13480	56871
Tintwistle ... ..	2071	2055	13619
Wirral ... ..	24753	27220	32710
	191864	206740	539666
Administrative County	625227	663280	636740

## Section II.—Births and Deaths.

### Births.

The total number of births registered in the Administrative County during 1928 was 9,968, equal to a birth-rate of 14.9 per 1,000 of the estimated population. This is a slight decrease from last year, when the number of births was 10,080, giving a rate of 15.1. Comparative statistics are:—

England and Wales	...	...	16.7
107 Great Towns	...	...	16.9
155 Smaller Towns	...	...	16.6
London	...	...	15.9

The highest birth-rates were:—

Ellesmere Port U.D.	...	...	24.9
Congleton Borough	...	...	19.0
Northwich U.D.	...	...	18.8
Runcorn U.D.	...	...	18.8
Malpas R.D.	...	...	18.7

The lowest were:—

Handforth U.D.	...	...	8.1
Mottram U.D.	...	...	8.2
Hoylake and West Kirby U.D.	...	...	9.4
Alsager U.D.	...	...	9.5
Marple U.D.	...	...	9.6

The total number of illegitimate births in the Administrative County was 368, as against 391 in 1927. Thirty-nine of these infants died under the age of one year.

### Deaths.

The total number of deaths occurring in the Administrative County during 1928 was 7,520, equal to a death-rate of 11.4 per 1,000 of the estimated population. In 1927 the death-rate was 11.4. Comparative statistics are:

	England and Wales	...	...	11.7
107	Great Towns	...	...	11.6
155	Smaller Towns	...	...	10.6
	London	...	...	11.6

The rates vary very considerably. The highest rates are recorded in the following districts:—

The highest death-rates were:—

Mottram U.D.	...	...	15.8
Congleton Borough	...	...	15.5
Nantwich U.D.	...	...	15.2
Stalybridge Borough	...	...	14.0
Hyde Borough	...	...	13.9

The lowest death-rates were:—

Buglawton U.D.	...	...	6.9
Ellesmere Port U.D.	...	...	8.4
Wirral R.D.	...	...	8.4
Chester R.D.	...	...	8.5
Bebington and Bromborough U.D.	...	...	8.9

### Births and Deaths.

The figures for the past 15 years are as follows:—

	Births.			Deaths.		
1928	...	...	9,968	...	7,520	
1927	...	...	10,080	...	7,606	
1926	...	...	10,333	...	7,368	
1925	...	...	10,356	...	7,670	
1924	...	...	10,687	...	7,601	
1923	...	...	11,061	...	7,101	
1922	...	...	11,395	...	7,691	
1921	...	...	12,440	...	7,197	
1920	...	...	14,075	...	7,246	
1919	...	...	9,999	...	8,066	
1918	...	...	9,838	...	8,903	
1917	...	...	9,970	...	7,278	
1916	...	...	11,537	...	7,730	
1915	...	...	12,078	...	8,286	
1914	...	...	13,019	...	7,816	

## Zymotic Diseases.

The total number of deaths from this special group of diseases in the Administrative County during 1928 was 192, equal to a zymotic death-rate of 0.28 per 1,000 of the estimated population.

## Infantile Mortality.

Your Council commenced their scheme of Maternity and Child Welfare on the 1st April, 1916. The larger portion of the County comes within the scheme, but there are a few districts which are responsible for their own schemes.

There have been 581 deaths of infants under one year in the Administrative County during 1928, a number equivalent to 58 per 1,000 of the recorded births. In 1927 there were 618 deaths, the rate being 61 per 1,000.

Particulars of the infantile death-rate for the last 16 years are as follows:—

					Infantile Death-rate.
1928	...	...	...	...	58
1927	...	...	...	...	61
1926	...	...	...	...	69
1925	...	...	...	...	73
1924	...	...	...	...	69
1923	...	...	...	...	65
1922	...	...	...	...	67
1921	...	...	...	...	79
1920	...	...	...	...	71
1919	...	...	...	...	83
1918	...	...	...	...	85
1917	...	...	...	...	86
1916	...	...	...	...	75
1915	...	...	...	...	98
1914	...	...	...	...	94
1913	...	...	...	...	104

Comparative statistics are:—

England and Wales	...	...	...	65
107 Great Towns	...	...	...	70
155 Smaller Towns	...	...	...	60
London	...	...	...	67

The highest infantile death-rates were:—

Tarporley U.D.	...	...	...	200
Yeardsley-cum-Whaley U.D.	...	...	...	190
Handforth U.D.	...	...	...	111
Nantwich U.D.	...	...	...	108
Knutsford U.D.	...	...	...	101

It is necessary to point out that in districts with small populations a very slight increase or decrease in infantile (or other) deaths in any one year will shew a marked fluctuation in the rate of mortality.

The lowest infantile death-rates were:—

Hollingworth U.D.	...	...	Nil
Bowdon U.D.	...	...	Nil
Disley R.D.	...	...	Nil
Wilmslow U.D.	...	...	18
Bredbury and Romiley U.D.	...	...	26
Neston and Parkgate U.D.	...	...	33
Hale U.D.	...	...	33

The marked decline in Infantile Mortality during recent years is one of which we have every reason to be proud. The lower this mortality figure falls the more difficult it becomes to reduce it further still.

Prior to your Council commencing their Maternity and Child Welfare Scheme the infantile mortality was, in round figures, 100 per thousand births. In twelve years this rate has been reduced to nearly half that amount. In view of the declining birth-rate this saving of infant lives assumes the very greatest importance.

### Tuberculosis.

The deaths recorded during 1928 under this heading are as under:—

	Urban Districts	Rural Districts	Total	Total 1927.
Tuberculosis of the Lungs...	274	107	381	363
Other Tuberculous Diseases	88	30	118	125
All Forms ..	362	137	499	488

Total deaths from Tuberculous Disease:—

1921	...	...	...	527
1922	...	...	...	550
1923	...	...	...	488
1924	...	...	...	512
1925	...	...	...	510
1926	...	...	...	489
1927	...	...	...	488
1928	...	...	...	499

It is to be observed that the fall in the death-rate is greater in the non-pulmonary forms than in that which



affects the lungs. This has been noted in previous reports.

### **Influenza.**

The total number of deaths due to this disease during 1928 was 194 as compared with 380 in 1927.

### **Pneumonia (all forms).**

Here we have recorded 435 deaths as compared with 469 in 1927. 261 of these occurred in males and 174 in females. The majority of these deaths occurred between the ages of 25 and 65.

An increasing number of Local Authorities are recognising the value of Hospital and Nursing Treatment for cases of pneumonia.

### **Bronchitis and other Respiratory Diseases.**

Under these headings we have to record 406 deaths, a smaller number than we have had for some years. The greatest number of these deaths occurred at ages 45 and upwards.

### **Infectious Diseases.**

The records show that the following deaths took place during the past three years :—

	1928	1927	1926
Enteric (Typhoid) Fever ...	5	7	12
Measles ... ..	49	39	58
Scarlet Fever ... ..	14	10	18
Whooping Cough ... ..	41	47	54
Diphtheria ... ..	33	32	50
Encephalitis Lethargica (Sleepy Sickness) ...	28	19	31
Cerebro-spinal (Spotted) Fever	3	6	4

### **Cancer (Malignant) Disease.**

The number of deaths from this terrible group of diseases once more shews an advance :—

Urban Districts. (Including Boroughs).		Rural Districts.		Total.
Males ...	315	... 118	...	433
Females ...	345	... 161	...	506
Totals ...	660	... 279	...	939

The death-rate per 1,000 of the estimated population is thus 1.42. The death-rate for the previous year was 1.33, that for 1926—1.37, for 1925—1.33, for 1924—1.37, for 1923—1.24 and for 1922—1.26.

Millions of money have been spent on research work in this connection. Many heroes of science have sacrificed life and limb in attempts to discover causes or alleviate suffering. Millions of words have been written and spoken in endeavours to impress on the public that it is "the beginning of disease" (as Sir George Newman has so aptly and rightly declared) that must be studied not only by the medical profession but by the public also if disaster is to be averted. Unfortunately a large section of the public is adder-eared where questions of prevention are concerned and the task of teaching is at times a hopeless one.

The reproduction of the following pamphlet recently issued by the Middlesex Hospital Press may do something to awaken public interest in this vitally important matter :

*"Cancer not an "incurable disease."*

Cancer, *in its earlier stages*, unless occurring in an inaccessible part of the body, is often curable, and is nowadays not infrequently cured by operation, while in certain varieties of the disease good results have been obtained by the use of Radium or of X-Rays. In their efforts to cure the disease doctors are terribly handicapped by the reluctance of patients to seek early advice. Often by the time the doctor is consulted the disease is too far advanced for treatment.

*"Pre-cancerous changes.*

Cancer is especially liable to arise in parts which are the seat of long standing irritation leading to chronic inflammation. These chronic inflammatory changes are termed pre-cancerous conditions, and they can sometimes be cured by simple treatment or by a trivial operation.

Pre-cancerous changes may be set up:—

- (1) By mechanical irritation, as by the irritation of the tongue by a jagged tooth, or by a sharp dental plate, or by the rubbing of a mole or birthmark by the collar.

- (2) By neglect of cleanliness. Naturally this cause affects chiefly these parts of the body which are difficult to keep clean.
- (3) Local infections. In some cases as the result of a want of cleanliness, in other cases quite apart from this, microbes gain a foothold at some point in the tissues of the body. The irritation there set up may become in time a potent cause of cancer.
- (4) A particular mention must be made of the microbe of syphilis. This microbe is apt to cause areas of chronic inflammation in various parts of the body, especially the tongue, which many years after the disease has been contracted may become the seat of cancer.
- (5) It is dangerous for the public to treat moles and warts by caustics or similar local treatment which may set up irritation and cause cancer later.

*“Early treatment of pre-cancerous conditions often prevents Cancer.*

It is to the patient's advantage that such conditions as are frequently followed by cancer should be thoroughly dealt with either medically or surgically, and that the 'pre-cancerous' state should not be allowed to pass, owing to neglect, into actual cancerous disease. It is in this sense that we are justified in speaking of the 'prevention of cancer.'

Inefficient cleaning of the mouth or teeth, syphilitic disease of the tongue, or irritation of the side of the tongue by a jagged tooth, may be followed by cancer of the tongue, and so we urge proper treatment of the dirty mouth or the syphilitic disease or the jagged tooth, in order to guard the patient, as far as possible, from the grave danger of cancer of the tongue.

In the same way, long-standing ulcers, whether of the face or of the stomach or of the leg, sometimes become cancerous, and we urge proper treatment of all ulcers in order to avoid this danger.

Similarly, cancer is often found in breasts that have become hard and knotty; cancer of the womb may follow long continued discharge.



Often the time between the beginning of the 'pre-cancerous' condition and the occurrence of undoubted cancer is fairly long, so that ample time is given for efficient treatment if the patient will only consult a doctor directly something wrong is noticed.

*"What the public can do for themselves to prevent Cancer.*

What we have to say under this heading may be largely summed up in the word *cleanliness*. It is, for example, very rare to see cancer in a mouth which has been kept clean.

It is not ordinary washing of the skin to which we are referring; but the regular cleansing of those recesses where the secretions may stagnate and decompose. *Cleanliness of the teeth* is specially important, for if foul secretions from the mouth are swallowed they are likely to lead to digestive troubles, even if more serious consequences do not follow.

Tar and paraffin workers and chimney sweeps should be especially careful about cleanliness, for tar, paraffin and soot are specially irritant to the skin.

Cancer often occurs in persons who have lived regular and healthy lives. No disgrace attaches to the cancer-patient, nor is he a source of infection to those around him. It must be recognized, however, that persons who have had syphilis are more likely to suffer from cancer; therefore sexual promiscuity tends to increase cancer. There is no good evidence that cancer attaches to particular houses.

Temperance in eating and drinking, regular exercise and fresh air, are important aids in the maintenance of health, and, therefore, presumably in the prevention of cancer.

*"The early stages of Cancer.*

Cancer usually begins at one particular spot in the body as a local growth, often to be felt as a lump. In this stage it can in most cases be removed safely and without pain, and with a good prospect of cure.



*“Why do most Patients consult a Doctor too late?”*

How is it that in a disease which excites so much dread it is often the case that the patient consults the doctor too late to be saved? This deplorable fact springs from a misconception, almost universal in the public mind, that cancer cannot exist without pain. To root out this misconception we here state emphatically that CANCER IN ITS EARLIER STAGES IS PAINLESS. Upon what, then, must a patient rely as an indication for seeking medical advice? There need be little fear of cancer before the age of forty. After this age, the appearance of a lump anywhere, or the presence of a hard patch or any obstinate ulcer, of an abscess or of a discharge of blood or matter from any of the orifices, or of persistent indigestion or constipation, or difficulty in swallowing, *may* possibly indicate the presence of a cancer. If you notice any of these symptoms or any marked decline in health, *do not nurse your dread*, but seek medical advice, which will either relieve you of a groundless fear or give you the best chance of cure.”

The mortality from “cancer” is more than 50 per cent. greater than that from Tuberculosis.

### **Heart and Circulatory Diseases.**

Included in this group are three of the Registrar-General’s classes, viz. :—

Heart Disease,  
Arterio-sclerosis, and  
Cerebral Hæmorrhage.

Taken together these have been responsible for no fewer than 2,258 deaths. These have been apportioned as under :—

Heart Disease, 1,324 deaths,  
Arterio-sclerosis, 553 deaths, and  
Cerebral Hæmorrhage, 381 deaths.

With the exception of Cerebral Hæmorrhage all these figures are higher than during the previous year.

### **Puerperal Sepsis.**

Sixteen deaths are recorded under this heading as compared with 10 during the preceding year. Under the new Regulations of the Ministry of Health every effort is being made to reduce this complication of child birth and special inquiries of a very full nature are now being made into every death reported.

**Other Causes of Death.**

The principal other diseases which have ended fatally are :—

Appendicitis and Typhlitis, 50.

Cirrhosis of Liver, 27.

Acute and Chronic Nephritis (Kidney disease), 290.

Congenital Defect and Premature Birth, 287.

Deaths by Violence, 249.

Suicide, 83.

### Section III.—Infectious Diseases.

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The following statement extracted from the Registrar-General's Statistical Review for 1928 shews, for each district in the County, the prevalence of the principal infectious diseases.

ADMINISTRATIVE AREA.	Small- pox.		Scarlet Fever.		Diph- theria.		Enteric Fever.		Puerperal Fever.		Puerperal Pyrexia.		Ery- sipelas.	
	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.
MUNICIPAL BOROUGH AND URBAN DISTRICTS														
Alderley Edge ...	—	—	5	1·63	—	—	—	—	—	—	—	—	1	0·33
Alsager ...	—	—	7	2·46	2	0·70	—	—	—	—	—	—	1	0·35
Altrincham ...	—	—	49	2·25	7	0·32	—	—	—	—	1	0·35	1	0·35
Ashton-upon-Mersey ...	—	—	10	1·23	5	0·61	—	—	1	0·05	2	0·09	8	0·37
Bebington & Bromborough ...	—	—	81	3·41	46	1·94	—	—	—	—	—	—	4	0·49
Bollington ...	—	—	1	0·19	3	0·56	—	—	1	0·04	5	0·21	13	0·55
Bowdon ...	—	—	2	0·67	—	—	1	0·19	—	—	—	—	4	0·75
Bredbury & Romiley ...	—	—	26	2·59	33	3·29	—	—	—	—	1	0·34	—	—
Buglawton ...	—	—	4	2·14	4	2·14	—	—	—	—	—	—	4	0·40
Headle & Gatley ...	—	—	42	2·83	3	0·20	—	—	—	—	2	1·07	1	0·53
Compstall ...	—	—	—	—	—	—	—	—	—	—	4	0·27	6	0·40
Congleton M.B. ...	3	0·25	13	1·08	21	1·75	1	0·08	—	—	—	—	—	—
Croft M.B. ...	—	—	65	1·37	92	1·93	2	0·04	2	0·17	4	0·33	6	0·50
Cuckfield M.B. ...	2	0·10	18	0·93	12	0·62	7	0·36	2	0·04	5	0·11	8	0·17
Culmston Port and ...	—	—	—	—	—	—	—	—	1	0·05	7	0·36	12	0·62
Whitby ...	85	4·84	159	9·04	15	0·85	—	—	—	—	3	0·17	3	0·17
Dale ...	—	—	24	2·42	7	0·71	—	—	—	—	1	0·10	3	0·17
Danforth ...	—	—	1	0·91	—	—	—	—	—	—	—	—	3	0·30
Dazel Grove and ...	—	—	—	—	—	—	—	—	—	—	—	—	1	0·91
Bramhall ...	—	—	24	2·02	12	1·01	1	0·08	1	0·08	—	—	4	0·34
Bollingworth ...	—	—	—	—	1	0·43	—	—	—	—	—	—	—	—
Boole ...	—	—	8	1·39	3	0·52	—	—	—	—	—	—	—	—
Boylake and West ...	—	—	—	—	—	—	—	—	2	0·35	1	0·17	2	0·35
Kirby ...	—	—	30	1·69	35	1·97	1	0·06	—	—	—	—	—	—
Croft M.B. ...	—	—	54	1·66	26	0·80	—	—	—	—	2	0·11	7	0·39
Croft M.B. ...	—	—	13	2·63	4	0·81	—	—	—	—	3	0·09	9	0·28
Cymmer ...	—	—	44	7·60	—	—	—	—	—	—	1	0·20	1	0·20
Croft M.B. ...	4	0·11	20	0·57	17	0·49	14	0·40	—	—	1	0·17	3	0·52
Croft M.B. ...	—	—	6	0·86	—	—	—	—	1	0·03	4	0·11	17	0·49
Croft M.B. ...	—	—	20	3·54	11	1·95	—	—	—	—	1	0·14	—	—
Croft M.B. ...	—	—	4	1·44	4	1·44	—	—	—	—	1	0·18	1	0·18
Croft M.B. ...	—	—	25	3·50	15	2·10	—	—	1	0·36	—	—	—	—
Croft M.B. ...	—	—	4	0·73	3	0·55	—	—	—	—	3	0·42	1	0·14
Croft M.B. ...	—	—	38	2·01	22	1·17	1	0·05	—	—	3	0·55	—	—
Croft M.B. ...	—	—	33	1·76	15	0·80	—	—	1	0·05	2	0·11	2	0·11
Croft M.B. ...	—	—	20	1·22	11	0·67	—	—	1	0·05	2	0·11	10	0·53
Croft M.B. ...	1	0·16	3	0·49	2	0·33	—	—	—	—	—	—	3	0·18
Croft M.B. ...	—	—	80	3·25	7	0·28	—	—	—	—	—	—	1	0·16
Croft M.B. ...	—	—	5	2·06	—	—	—	—	4	0·16	3	0·12	12	0·49
Croft M.B. ...	—	—	26	2·76	4	0·42	—	—	—	—	—	—	—	—
Croft M.B. ...	—	—	28	2·48	17	1·50	—	—	—	—	—	—	2	0·21
Croft M.B. ...	—	—	5	3·09	1	0·62	—	—	1	0·09	2	0·18	14	1·24
RURAL DISTRICTS														
Croft M.B. ...	—	—	45	1·82	20	0·81	—	—	—	—	—	—	—	—
Croft M.B. ...	—	—	37	2·37	6	0·38	1	0·06	—	—	1	0·04	9	0·36
Croft M.B. ...	4	0·30	22	1·66	3	0·23	—	—	—	—	—	—	9	0·58
Croft M.B. ...	—	—	11	3·56	2	0·65	—	—	1	0·08	5	0·38	8	0·60
Croft M.B. ...	—	—	58	3·00	5	0·26	—	—	—	—	—	—	2	0·65
Croft M.B. ...	—	—	1	0·23	4	0·90	—	—	1	0·05	1	0·05	1	0·05
Croft M.B. ...	—	—	46	1·74	48	1·82	2	0·08	—	—	—	—	1	0·23
Croft M.B. ...	—	—	83	3·16	28	1·07	6	0·23	4	0·15	1	0·04	6	0·23
Croft M.B. ...	1	0·03	58	1·90	23	0·75	—	—	—	—	5	0·19	11	0·42
Croft M.B. ...	—	—	8	0·59	10	0·74	—	—	—	—	4	0·13	18	0·59
Croft M.B. ...	—	—	11	5·35	—	—	—	—	—	—	1	0·07	1	0·07
Croft M.B. ...	—	—	64	2·09	31	1·01	2	0·07	—	—	—	—	1	0·49
Croft M.B. ...	—	—	—	—	—	—	—	—	—	—	1	0·03	7	0·23

† Rates adjusted to allow for change in boundary during the year.



Total number of cases of Infectious Diseases notified during the 52 weeks ended December 29th, 1928, and the Attack-Rate per 1,000 of the civilian population :—

Scarlet Fever.		Diphtheria.		Enteric Fever.		Puerperal Fever.		Puerperal Pyrexia.		Erysipelas.	
Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.	Cases.	Rate.
1441	2·16	640	0·96	39	0·06	25	0·04	83	0·12	238	0·36

Smallpox Cases.	Typhus Fever Cases.	Continued Fever Cases.	Cerebro-spinal Fever Cases.	Poliomyelitis Cases.	Encephalitis Lethargica Cases	Ophthalmia Neonatorum Cases.	Tuberculosis of Respiratory System Cases.	Other Tuberculosis Cases.
100	—	—	3	5	28	61	583	360

### Isolation Hospitals.

The question of the better provision of Isolation Hospital accommodation in certain parts of the County has been the subject of a detailed report by me and a conference has been held with several Local Authorities on the subject. Other conferences will probably be necessary and, it is hoped, will prove fruitful. The Local Government Act, 1929, imposes new duties on your Council in this respect, including the preparation of a comprehensive scheme for the isolation of infectious diseases (excluding tuberculosis and venereal disease). In the preparation of such a scheme I hope it will prove practicable to avoid having to rely upon Corporations outside the County for the treatment of our infectious cases.

## Section IV.—Venereal Diseases.

The cost of treatment of patients in the County suffering from Venereal Disease is approximately £2,400.

The amount of treatment given at the various Centres during 1928 is shewn in the following statement :—



Institution.	Persons attending for first time at Out-Patient Clinic suffering from				Total attendances at Out-Patient Clinic.	Number of In-Patient Days.	Doses of Salvarsan substitute given.
	Syphilis.	Soft Chancre	Gonorrhœa.	Non-Veneral conditions.			
Ashton-under-Lyne Infirmary ...	24	—	8	7	1942	1	346
Birkenhead Infirmary ...	5	—	13	11	654	14	113
Chester Royal Infirmary	34	—	33	5	1542	68	502
Liverpool Seamen's Dispensary ...	—	—	5	—	333	—	2
Liverpool Royal Infirmary ...	4	—	4	5	322	—	77
Liverpool David Lewis Northern Hospital	5	—	6	—	302	—	110
Liverpool Royal Southern Ancoats Hospital, Manchester	2	—	—	—	163	48	21
Manchester Skin Hospital	4	—	10	18	342	—	28
St. Luke's, Manchester	12	—	6	4	464	—	68
Manchester Royal Infirmary	4	3	31	10	637	126	85
St. Mary's, Manchester	25	—	39	10	1046	—	105
	5	—	6	17	392	—	68
Salford Boro' Hospital ...	3	—	23	16	1012	19	24
Stockport Clinic ...	9	—	19	7	712	—	136
Wallasey Clinic ...	1	—	—	—	31	—	31
Warrington Infirmary ...	5	—	14	31	867	70	71

### Examination of Specimens.

The following have been examined at the Manchester Public Health Laboratory :—

		Syphilis.	
		Wassermann Reaction.	Gonorrhœa.
1st Quarter	...	55	6
2nd "	...	55	9
3rd "	...	49	6
4th "	...	46	16
Total	...	205	37

In addition the following examinations have been made at Ashton-under-Lyne District Infirmary :—

For Gonococci, 136

For Wassermann reaction, 157.

In connection with the Manchester Hospitals the following examinations were made :—

For Gonococci, 48.

For Wassermann reaction, 67.

In the case of the other Treatment Centres the total number of pathological examinations is given, but those done for Cheshire are not separately given.

## Section V.—Tuberculosis.

The Scheme adopted by the Council for the prevention and treatment of Tuberculosis appears to meet all requirements and the increase in the number of patients treated during the past year emphasises the fact that all classes of persons in the County, suffering, or suspected to be suffering, from Tuberculosis, are availing themselves of the facilities provided under the Scheme.

The County is divided into three Dispensary districts and each district is in charge of a District Tuberculosis Officer entrusted with its administration under the direction of the Central Office.

The places, days and times of Dispensary Sessions in the County are as follows:—

### 1. CHESTER & CREWE DISTRICT.

Address of Dispensary.	Days.	Sessions held on	
		Hours.	
Ashton House, Gatefield Street, ...	Monday	...10 0 a.m. to 1 0 p.m.	
Crewe	Wednesday	... 5 30 p.m. to 8 0 p.m.	
15, St. John Street, Chester	Wednesday	...10 0 a.m. to 12 noon.	
52, Victoria Road, Ellesmere Port...	Thursday	... 2 30 p.m. to 5 0 p.m.	
Duncan Street, Birkenhead	Friday	... 2 0 p.m. to 4 0 p.m.	
The Lodge, Darmond's Green, ...	Tuesday	... 2 0 p.m. to 4 0 p.m.	
West Kirby			

### 2. HYDE DISTRICT.

Beeley Street, Hyde	Monday	...10 0 a.m. to 12 noon	
	Wednesday	... 2 0 p.m. to 4 30 p.m.	
		6 0 p.m. to 7 30 p.m.	
Throstle Grove House, Great	Monday	... 3 0 p.m. to 5 0 p.m.	
Egerton Street, Stockport			
Chapel Street, Congleton	Friday	... 2 30 p.m. to 5 0 p.m.	
Pear Tree House, Jordangate, ...	Friday	...10 0 a.m. to 12 noon.	
Macclesfield			

### 3. NORTHWICH & ALTRINCHAM DISTRICT.

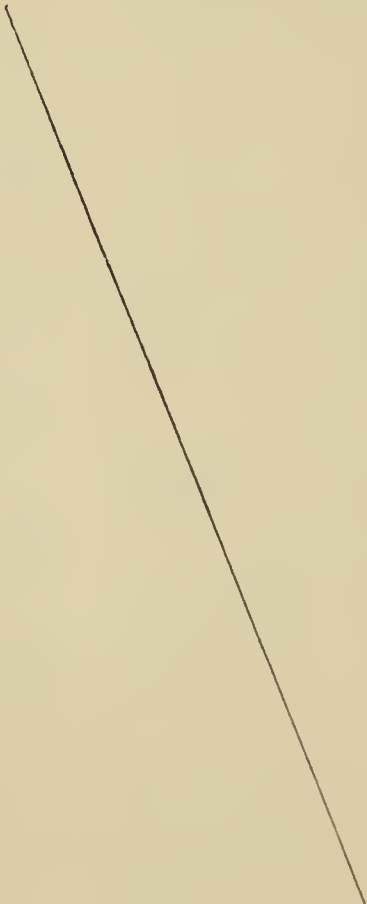
12, Dunham Road, Altrincham	Tuesday	...10 0 a.m. to 12 noon.	
	Wednesday	...10 0 a.m. to 12 noon.	
	Friday	... 6 0 p.m. to 7 45 p.m.	
London Road, Northwich	Friday	...10 0 a.m. to 12 noon.	
28, High Street, Runcorn	Thursday	...11 0 a.m. to 12 30 p.m.	
Albert Infirmary, Winsford	Monday	... 5 30 p.m. to 7 0 p.m.	

The Tables included in this Report give in considerable detail an account of the work accomplished during the year 1928, and for the purposes of comparison I have separated the outstanding figures for the year under review and the two previous years.

		New Cases (primary) notified during 1928	Corresponding figures for	
			1927	1926
Pulmonary		597	544	613
Non-pulmonary	...	359	354	342
Total		956	898	955
No. of cases remaining on Registers of Notifications kept by District M.O's.H., December 31st, 1928		5309	5069	4926
			Corresponding figures for	
			1927	1926
No. of Deaths from all forms of Tuberculosis during 1928		499	488	489
Death-rate from all forms of Tuberculosis per 1,000 of the population, 1928...		0.74	0.73	0.74
New Applicants for Treatment during 1928		462	450	436
No. of Attendances at Dispen- saries, 1928		5243	5027	6151
Attendances at Orthopædic Clinics, 1928		985	681	246
Attendances at Hospitals for special treatment, 1928		7090	3883	2307
Specimens examined at County Laboratory, 1928		2272	2219	1979
No. of Consultations with Medical Practitioners, 1928		743	458	229
Visits of T.O's. to Homes		351	557	324
Visits of Health Visitors to Homes for Dispensary purposes		5414	5126	5267

The main features to note in the foregoing figures are the following:—

1. A slight increase in the number of new cases notified during 1928.

2. The death-rate from all forms of Tuberculosis shows a very slight increase during 1928, but it is considerably below the rate for England and Wales, which was .92 per 1,000 for 1928.
  3. The attendances at Orthopædic Clinics shows a large increase during 1928. The main cause of this increase is due to the Orthopædic After-Care Scheme which is now functioning throughout the County.
  4. The number of attendances at Hospitals for special treatment has almost doubled during the year 1928. A considerable number of patients are now sent to Institutions for treatment by Artificial Sunlight and this has caused a large increase in the figures.
  5. The number of consultations between Medical Practitioners and District Tuberculosis Officers during 1928 shows another considerable increase. This is a gratifying feature as it would be extremely difficult to organise a comprehensive scheme for the treatment of Tuberculosis without the co-operation of Medical Practitioners.
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Summary of Notifications during the period from the 1st January, 1928, to the 29th December, 1928.

Age-Periods ...	Notifications on Form A.													Notifications on Form B.					Number of Notifications on Form C	
	Number of Primary Notifications* of new cases of tuberculosis.												Total Notifications on Form A.	Number of Primary Notifications* of new cases of tuberculosis				Total Notifications on Form B.	Poor Law Institutions.	Sanatoria.
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total (all ages)		Under 5	5 to 10	10 to 15	Total (0—15)			
Pulmonary Males ...	2	4	7	10	27	41	59	78	72	22	9	331	337	—	1	—	1	1	21	223
„ Females...	—	4	10	6	40	35	74	41	24	15	7	256	259	—	—	—	—	—	14	125
Non-Pulmonary Males ...	9	55	43	23	14	13	15	8	5	7	2	194	197	—	2	1	3	3	2	44
„ „ Females ...	7	32	34	15	15	14	15	9	8	1	1	151	156	—	1	—	1	1	2	29

\*PRIMARY NOTIFICATIONS relate to patients who have never previously been notified, either on Form A or on Form B, in the Sanitary District in which the case was notified in 1928. Any additional notification of a case which has been previously notified in the same Sanitary District is to be regarded as duplicate.

SUPPLEMENTAL RETURN.

New cases of Tuberculosis coming to the knowledge of the Medical Officer of Health or Chief (Administrative) Tuberculosis Officer during the period from the 1st January, 1928, to the 29th December, 1928, **otherwise** than by notification on Form A or Form B under the Public Health (Tuberculosis) Regulations, 1912.\*

Age-periods ...	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	Total Cases.
Pulmonary Males ...	—	—	—	1	2	5	8	6	1	3	2	28
„ Females ...	—	1	—	1	1	1	3	2	3	2	1	15
Non-pulmonary Males ...	1	7	1	1	1	—	1	—	—	—	—	12
„ Females ...	1	5	1	1	1	2	2	2	—	1	1	17

The source or sources from which information as to the above-mentioned cases was obtained are stated below :—

Source of Information.	No. of Cases.	
	Pulmonary.	Non-pulmonary.
Death Returns ( <i>i.e.</i> , from local Registrars, or transferable deaths from Registrar General)	27	15
“Transfers” from other areas (other than transferable deaths)	4	2
Forms C and D (in respect of cases not previously known to the M.O.H.)	2	1
Other sources, <i>e.g.</i> , posthumous notifications	9	12

\***Note.**—New cases of tuberculosis first coming to knowledge otherwise than by formal notification may in some instances afterwards be formally notified on Form A or Form B. Should such formal notification be received *within the same year as that in which the case first came to the knowledge of the M.O.H.*, it should be recorded in Cols. (2)–(13), or (15)–(18), of the Summary of Notifications and **not** in the Supplemental Return, **unless** such formal notification was improperly made, *e.g.*, after the death of the person. In the event of a formal notification being received in respect of a person recorded in the Supplemental Return for a *previous year*, such notification should **not** be recorded in Cols. (2)–(13), or (15)–(18), of the Summary, but **only** in Col. (14) or Col. (19), whichever is appropriate.

No case should be included both in the Summary of Notifications and in the Supplemental Return for the same year.

Return showing the work of the Dispensaries during the year 1928:—

Diagnosis.	Pulmonary.		Non-pulmonary.		Total.	
	Adults.	Children	Adults.	Children	Adults.	Children
	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.
<b>A—New Cases examined during the year (excluding contacts):</b>						
(a) Definitely tuberculous ..	213 156	15 23	53 33	82 45	266 189	97 68
(b) Doubtfully tuberculous ...	— —	— —	— —	— —	44 23	23 9
(c) Non-tuberculous ...	— —	— —	— —	— —	131 96	69 73
<b>B—Contacts examined during the year:</b>						
(a) Definitely tuberculous ...	8 15	5 1	— —	6 7	8 15	11 8
(b) Doubtfully tuberculous ...	— —	— —	— —	— —	8 11	6 8
(c) Non-tuberculous ...	— —	— —	— —	— —	54 153	218 202
<b>C—Cases written off the Dispensary Register as</b>						
(a) Cured ...	24 5	2 2	11 15	21 17	35 20	23 19
(b) Diagnosis not confirmed or non-tuberculous (including cancellation of cases notified in error) ...	— —	— —	— —	— —	219 282	314 303
<b>D—Number of Persons on Dispensary Register on December 31st, 1928:</b>						
(a) Diagnosis completed ..	669 448	97 81	169 225	312 221	838 673	409 302
(b) Diagnosis not completed	— —	— —	— —	— —	48 42	25 24

1. Number of persons on Dispensary Register on January 1st, 1928 ... 2,223
2. Number of patients transferred from other areas and of "lost sight of" cases returned ... 45
3. Number of patients transferred to other areas and cases "lost sight of" ... 101
4. Died during the year ... 381
5. Number of observation cases under A (b) and B (b) above in which period of observation exceeded two months ... 60
6. Number of attendances at the Dispensary (including Contacts) ... 5,243
7. Number of attendances of non-pulmonary cases at Orthopædic Out-stations for treatment or supervision ... 985

8. Number of attendances, at General Hospitals or other Institutions approved for the purpose, of patients for
  - (a) "Light" treatment ... .. 6,308
  - (b) Other special forms of treatment ... 782
9. Number of patients to whom Dental Treatment was given, at or in connection with the Dispensary ... .. Nil
10. Number of consultations with medical practitioners:—
  - (a) At Homes of Applicants ... .. 260
  - (b) Otherwise ... .. 483
11. Number of other visits by Tuberculosis Officers to Homes ... .. 351
12. Number of visits by Nurses or Health Visitors to Homes for Dispensary purposes ... .. 5,414
13. Number of
  - (a) Specimens of sputum, &c., examined ... \*1,139
  - (b) X-ray examinations made in connection with Dispensary work ... .. 48
14. Number of Insured Persons on Dispensary Register on the 31st December, 1928 ... 1,038
15. Number of Insured Persons under Domiciliary Treatment on the 31st December, 1928 ... .. 692
16. Number of reports received during the year in respect of Insured Persons:—
  - (a) Form G.P. 17 ... .. 188
  - (b) Form G.P. 36 ... .. 672

\* In addition 1,133 specimens were received from private practitioners for examination of Tubercle Bacilli.

Table shewing number of cases of Tuberculosis remaining on the Registers of Notifications kept by District Medical Officers of Health in the County on the 31st December, 1928:—

PULMONARY.			NON-PULMONARY.			Total Cases.
Males.	Females.	Total.	Males.	Females.	Total.	
1686	1453	3139	1129	1041	2170	5309

Return showing the immediate results of treatment of patients and of observation of doubtful cases discharged from Residential Institutions during the year 1928:—



Classification on admission to the Institution.		Condition at time of discharge.	Duration of Residential Treatment in the Institution.														
			Under 3 months.			3—6 months.			6—12 months.			More than 12 months.			TOTAL.		
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.			
PULMONARY TUBERCULOSIS.		Class T.B. minus.	Quiescent ... ..	5	1	4	2	1	—	1	—	5	1	—	1	21	
			Improved ... ..	15	5	2	9	4	2	3	6	4	—	1	1	52	
			No material improvement ...	1	6	1	—	—	1	—	1	1	—	—	1	12	
			Died in Institution ...	4	1	—	—	—	—	—	—	—	1	—	—	6	
		Class T.B. plus. Group 1.	Quiescent ... ..	1	—	—	1	1	—	—	1	—	2	—	—	6	
			Improved ... ..	7	1	—	2	—	—	3	1	2	1	1	—	18	
			No material improvement ...	—	—	—	—	—	—	—	—	—	—	—	—	—	
			Died in Institution ...	1	—	—	—	—	—	—	—	—	—	—	—	1	
		Class T.B. plus. Group 2.	Quiescent ... ..	1	—	—	2	—	—	—	1	—	1	—	—	5	
			Improved ... ..	34	7	—	27	13	—	28	14	—	10	6	1	140	
			No material improvement ...	8	3	—	3	2	—	3	4	2	3	—	—	28	
			Died in Institution ...	7	1	—	1	1	—	3	—	—	—	—	—	13	
		Class T.B. plus. Group 3.	Quiescent ... ..	1	—	—	—	—	—	—	1	—	—	—	—	2	
			Improved ... ..	5	4	—	8	4	—	3	1	—	4	1	—	30	
			No material improvement ...	10	6	—	11	3	—	6	7	—	1	5	—	49	
			Died in Institution ...	14	13	1	8	7	—	6	3	—	3	2	1	58	
NON-PULMONARY TUBERCULOSIS.		Bones and Joints.	Quiescent or Arrested ...	1	—	—	1	—	1	—	—	—	3	1	1	11	19
			Improved ... ..	7	5	9	8	2	8	2	1	2	3	3	6	56	
			No material improvement ..	3	—	2	1	1	1	—	1	—	—	1	—	10	
			Died in Institution ...	—	2	—	—	—	—	2	—	—	1	—	—	5	
		Abdominal.	Quiescent or Arrested ...	—	—	1	—	—	—	1	1	5	—	—	2	10	
			Improved ... ..	4	2	7	—	1	1	—	—	2	—	—	—	17	
			No material improvement ...	—	—	—	—	—	—	—	—	1	—	—	—	1	
			Died in Institution ...	—	1	—	—	—	—	—	1	1	—	—	—	3	
		Other Organs.	Quiescent or Arrested ...	—	—	—	—	1	—	—	—	—	—	—	—	1	
			Improved ... ..	5	7	4	—	1	—	—	—	—	1	—	—	18	
			No material improvement ...	—	—	—	—	—	—	—	—	—	—	—	—	—	
			Died in Institution ...	—	—	—	—	—	—	—	—	—	—	—	—	—	
		Peripheral Glands.	Quiescent or Arrested ...	—	—	—	—	—	—	—	—	4	—	—	—	4	
			Improved ... ..	5	11	25	—	1	4	—	—	2	—	—	2	50	
			No material improvement ...	—	—	4	—	—	—	—	—	—	—	—	—	4	
			Died in Institution ...	—	—	1	—	—	—	—	—	—	—	—	—	1	
Observation for purpose of diagnosis.		Under 1 week.			1—2 weeks.			2—4 weeks.			More than 4 weeks.						
		Tuberculous ... ..			—	—	—	1	2	—	—	—	—	3	3	1	10
		Non-tuberculous ... ..			—	—	—	1	1	1	2	—	—	*4	4	2	15
		Doubtful... ..			—	—	—	—	—	—	—	1	—	—	1	—	—

\* 1 died from a Malignant Growth.

## RESIDENTIAL INSTITUTIONS.

(a) Average Number of Beds available for Patients during the year 1928:—

—	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total.
		“Sanatorium” Beds.	‘Hospital’ Beds.	Disease of Bones and Joints	Other Conditions	
Adult Males	2	108	44	15	1	170
Adult Females...	2	58	19	6	3	88
Children under 15...	1	17	1	35	24	78
TOTAL ...	5	183	64	56	28	336

(b) Return showing the Extent of Residential Treatment during the year 1928:—

			In Institu- tions on Jan. 1.	Admitted during the year.	Dis- charged during the year.	Died in the Institu- tions.	In Institu- tions on Dec. 31
Number of Patients.	Adults.	M.	139	329	266	51	151
		F.	85	173	152	32	74
	Children.	M.	47	78	79	2	44
		F.	33	53	56	2	28
Number of Observa- tion Cases.	Adults.	M	3	10	11	1	1
		F.	—	11	10	—	1
	Children.	M.	—	3	3	—	—
		F.	—	2	2	—	—
TOTAL			307	659	579	88	299

The following Table shows the number of Insured (including Discharged Soldiers and Sailors) and Uninsured persons who have received treatment during the years 1915-1928:—

YEAR.	INSURED.		UNINSURED.		TOTAL.
	Males.	Females.	Males.	Females.	
1915	157	88	3	8	256
1916	216	112	35	33	396
1917	177	70	57	72	316
1918	180	56	69	105	410
1919	300	72	62	92	526
1920	371	82	90	104	647
1921	299	73	96	125	593
1922	292	96	105	102	594
1923	300	118	112	136	666
1924	321	136	154	163	774
1925	325	123	147	129	724
1926	336	156	158	217	867
1927	412	134	169	188	903
1928	416	158	194	203	971

Number of new applicants for treatment under the County Tuberculosis Scheme during the years 1922-1928:

YEAR.	DIS- CHARGED SOLDIERS.	INSURED.	UNINSURED.	TOTAL.
1922	19	198	194	411
1923	7	205	219	431
1924	3	249	208	460
1925	2	191	174	367
1926	—	238	198	436
1927	—	234	216	450
1928	1	228	233	462
Totals.	32	1543	1442	3017

Table relating to Tuberculosis in Children:—

Year.	Number of Children notified as suffering from Pulmonary Tuberculosis.	Number of Children notified as suffering from Non-Pulmonary Tuberculosis.	Per % of Total Notifications.	
			Pulmonary.	Non-Pulmonary.
1922	59	176	11·368	68·482
1923	52	217	9·756	68·238
1924	64	257	10·613	64·25
1925	34	231	6·182	69·37
1926	51	230	8·472	68·657
1927	46	224	8·303	62·57
1928	44	222	7·483	63·61

Number of beds occupied by children in Institutions, 1928—Pulmonary, 52; Non-Pulmonary, 162; Total, 214.

The following Statement indicates the Institutions to which patients have been admitted from the Administrative County of Chester during the year ending 31st December, 1928, and also numbers of Insured and Uninsured persons respectively treated in each Institution, together with a Statement of the average duration of periods of residence:



NAME OF INSTITUTION.	INSURED.				UNINSURED.				
	Males.	Females.	Total.	Average period in Residence.	Males.	Females.	Children under 16.	Total.	Average period in Residence.
<b>SANATORIA.</b>									
Cheshire Joint Sanatorium (Market Drayton) ... ..	171	93	264	Wks. 16 Dys. 5	35	66	4	105	Wks. 15 Dys. 6
Wrenbury Hall Colony (Nantwich) ...	91	—	91	19 5	9	—	—	9	14 2
Eastby Sanatorium (Skipton, Yorks.)	—	—	—	—	—	—	26	26	20 6
Liverpool Sanatorium (Kingswood, Frodsham) ... ..	—	1	1	15 6	1	—	20	21	15 2
Bowdon Sanatorium (Bowdon) ...	—	—	—	—	—	—	1	1	17 —
	262	94	356		45	66	51	162	
<b>PULMONARY HOSPITALS.</b>									
Hyde Pavilion (Hyde) ... ..	63	—	63	25 6	5	—	—	5	9 6
Sealand Pavilion (near Chester) ...	8	6	14	11 5	1	5	—	6	8 1
Baguley Sanatorium (Timperley) ...	8	4	12	22 5	3	3	—	6	8 2
Crewe Pavilion (Crewe) ... ..	3	—	3	19 6	—	—	—	—	—
Mount Pleasant Hospital (Liverpool)	13	5	18	12 2	4	6	1	11	13 5
Hefferston Grange San. (Weaverham)	9	22	31	15 3	1	11	1	13	14 4
	104	37	141		14	25	2	41	
<b>GENERAL HOSPITALS.</b>									
Congleton War Memorial Hospital (Congleton) ... ..	—	—	—	—	—	—	1	1	7 —
Albert Infirmary (Winsford) ... ..	1	1	2	9 0	—	—	2	2	26 6
District Infirmary (Ashton-u-Lyne) ...	1	2	3	9 1	1	3	9	13	8 1
Macclesfield General Infirmary	4	—	4	18 1	—	1	6	7	16 2
Manchester Royal Infirmary ... ..	3	5	8	3 5	1	2	6	9	3 1
Chester Royal Infirmary ... ..	1	3	4	3 —	1	2	11	14	4 1
Runcorn Cottage Hospital ... ..	4	1	5	4 3	—	1	6	7	7 5
Altrincham General Hospital... ..	3	1	4	6 5	—	1	—	1	1 1
David Lewis Northern Hospital (Liverpool) ... ..	—	—	—	—	1	—	—	1	4 2
Royal Infirmary (Liverpool) ... ..	3	1	4	4 4	—	—	—	—	—
Ancoats Hospital (Manchester) ...	1	1	2	6 5	—	—	—	—	—
Warrington Infirmary ... ..	1	—	1	2 5	—	—	—	—	—
	22	15	37		4	10	41	55	
<b>SPECIAL INSTITUTIONS FOR CHILDREN.</b>									
Royal Liverpool Children's Hospital, Myrtle Street ... ..	—	—	—	—	—	—	7	7	1 5
Royal Liverpool Children's Hospital, Thingwall ... ..	—	—	—	—	—	—	2	2	8 4
Leasowe Hospital for Children (Leasowe) ... ..	—	—	—	—	—	—	42	42	26 1
Heswall Institution (Heswall) ...	—	—	—	—	—	—	23	23	17 6
	—	—	—		—	—	74	74	
<b>ORTHOPAEDIC HOSPITALS.</b>									
Shropshire Orthopaedic Hospital (Oswestry) ... ..	25	7	32	20 5	4	10	19	33	24 1
	25	7	32		4	10	19	33	
<b>CONVALESCENT HOMES.</b>									
Royal Alexandra Hospital, Rhyl ...	—	3	3	7 4	—	—	13	13	30 2
Children's Convalescent Home, West Kirby ... ..	—	—	—	—	—	—	9	9	24 5
	—	3	3		—	—	22	22	
<b>SKIN HOSPITAL.</b>									
Manchester and Salford Skin Hospital	3	2	5	3 4	1	4	5	10	4 5
	3	2	5		1	4	5	10	
<b>TOTAL ALL INSTITUTIONS</b> ...	416	158	574		68	115	214	397	



Table showing the actual number of Deaths from Tuberculosis during the past fifteen years:—

Year.	Pulmonary.	Non-Pulmonary.	Total. All forms.
1914	... 445	... 210	... 655
1915	... 469	... 208	... 677
1916	... 510	... 167	... 677
1917	... 494	... 177	... 671
1918	... 548	... 196	... 744
1919	... 452	... 140	... 592
1920	... 454	... 124	... 578
1921	... 388	... 139	... 527
1922	... 418	... 132	... 550
1923	... 344	... 144	... 488
1924	... 362	... 150	... 512
1925	... 412	... 98	... 510
1926	... 367	... 122	... 489
1927	... 363	... 125	... 488
1928	... 381	... 118	... 499

The 1928 figures are made up as follows:—

	Male.	Female.	Total.
Pulmonary	... 214	... 167	... 381
Non-Pulmonary	... 57	... 61	... 118
	<u>271</u>	<u>228</u>	<u>499</u>

#### Death-rates, 1928.

All forms of Tuberculosis, .74 per 1,000 of population.

Pulmonary Tuberculosis, .57 per 1,000 of population.

Non-Pulmonary Tuberculosis, .17 per 1,000 of population.

The figures for the five preceding years are as under :

Year.	Pulmonary.	Non-Pulmonary.	All Forms.
1923	... 0.54	... 0.22	... 0.76
1924	... 0.56	... 0.23	... 0.79
1925	... 0.63	... 0.15	... 0.78
1926	... 0.55	... 0.18	... 0.73
1927	... 0.55	... 0.18	... 0.73

TABLE SHOWING DEATHS FROM TUBERCULOSIS AT DIFFERENT PERIODS OF LIFE  
IN THE ADMINISTRATIVE COUNTY OF CHESTER, DURING THE YEAR 1928.

		Aggregate of Urban Districts.											Aggregate of Rural Districts.										
Sex.	All Ages.	0—	1—	2—	5—	15—	25—	45—	65—	75—	All Ages.	0—	1—	2—	5—	15—	25—	45—	65—	75—			
{  Pulmonary Tuberculosis.	M	157	—	—	2	4	23	64	56	7	1	57	—	—	—	2	8	28	16	3	—		
	F	117	—	—	1	2	34	57	20	3	—	50	—	—	—	2	12	20	15	1	—		
{  Non-pulmonary Tuberculosis.	M	43	10	9	7	1	4	7	4	1	—	14	3	1	3	2	2	1	—	—			
	F	45	4	2	6	9	12	10	2	—	—	16	2	2	3	2	2	1	4	—			



**Statement giving Particulars of Specimens Examined  
in County Public Health Laboratory during the Years 1920  
to 1928 inclusive.**

AR.	Sputums.		Urines.		Glands.		Pleural Effusions.		Blood.		Pus.		Urethral Discharge		Hair for Ringworm		Milk.	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
20	292	1054	..	2	..	..	..	..	..	..	..	2	..	..	..	1	..	1
21	459	1264	2	5	1	..	..	3	*1	..	..	..	..	..	..	..	..	..
22	511	1379	..	5	2	..	..	1	..	..	..	1	†1	..	3	4	..	2
23	604	1359	3	9	..	..	..	2	..	..	1	1	..	..	..	2	..	3
24	528	1548	1	2	1	3	..	2	..	..	..	1	..	..	2	12	..	1
25	516	1566	..	6	..	..	..	2	..	..	..	..	..	..	9	21	..	1
26	505	1451	..	4	..	..	..	1	..	..	..	2	..	..	8	8	..	..
27	415	1790	..	1	..	..	..	1	..	..	..	..	..	..	6	5	..	..
28	463	1790	..	6	..	..	..	2	..	..	1	4	..	..	7	6	..	..

EAR.	Skin.		Fæces for Worms.		Ulcer of Lip.		Fallopian Tubes.		Swab from Mouth.		Cerebro Spinal Fluid.		Tonsils for T.B.		Fæces for T.B.		Total Number of Specimens.
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
1920	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1353
1921	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1735
1922	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1910
1923	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1984
1924	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2102
1925	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	2123
1926	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1979
1927	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2219
1928	..	..	..	..	..	..	..	..	..	..	2	..	1	1	2	..	2285

\* Film appeared to be one of secondary Anæmia.

† Gonococci present.

Table shewing number of specimens examined during 1928 in respect of patients resident in Institutions:—

SANATORIA.

	Neg.	Pos.
Wrenbury Hall ...	123	79
Borough Hospital, Hyde, T.B. Pavilion ...	15	57

OTHER INSTITUTIONS.

Clatterbridge Infirmary ...	41	10
Lake Hospital, Ashton-under-Lyne ...	9	1
St. Edmund's Orphanage, Bebington ...	4	—
War Memorial Hospital, Congleton ...	2	—
Macclesfield General Infirmary ...	17	1
General Hospital, Altrincham ...	3	—
Albert Infirmary, Winsford ..	1	—
National Children's Home, Congleton ...	1	—
Poor Law Institution, Arclid ...	5	1
Bucklow Union Hospital ...	4	2
Victoria Infirmary, Northwich ...	1	—
Dutton Infirmary ...	2	—
Cottage Hospital, Neston ..	3	—
Cottage Hospital, Hoylelake ...	1	—
Cottage Hospital, Whitby Heath ...	1	—
Tarvin Infirmary ...	1	—

OTHER DISTRICTS.

Packmoor ...	1	—
Stockport ...	1	—
Biddulph ...	2	2
Chester ...	5	1
Birkenhead ...	1	—
Ashton-under-Lyne ...	1	—
Warrington ...	—	1
Latchford ...	—	1

TOTAL NUMBER OF SPECIMENS EXAMINED DURING 1928.

Sputums for T.B. Examinations. (20·55 %)	1790	463
(Positive)		
Pleuritic Fluid ...	2	—
Urines ...	6	—
Pus ...	4	1
Fæces ...	2	1
Cerebro Spinal Fluid ...	2	—
Hair for Ringworm ...	6	7
Tonsils ...	1	—
	<hr/> 1813	<hr/> 472

1813 Negatives. 472 Positives. Total Number Examined 2285.

Numbers of negative specimens were examined by concentration method after examination by the ordinary microscopical method, but in no instance were tubercle bacilli found.

No action was taken by the County Council under Section 62 of the Public Health Act, 1925, which permits the Council to apply for an order to compulsorily remove a person suffering from Tuberculosis to Hospital.

## Section VI.—Maternity & Child Welfare.

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By Dr. Jean Reid Shaw,  
Lady Assistant Medical Officer of Health.

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### Number of Midwives in Practice.

There were 331 midwives who notified their intention to practise in the County Area during 1928. Classified these are as follows:—

- 257 Actually practised—220 trained, 37 untrained.
- 14 Monthly Nurses.
- 17 Midwives living outside the County.
- 11 In Institutions.
- 28 Had no cases.
- 4 Dead.

Each year the number of practising midwives who have had no institutional training becomes less. When inspection of midwives was taken over by a County Official there were 226 *bona-fide* midwives practising, now there are only 37 untrained midwives who take cases without a doctor.

With the passing of the old fashioned midwife many of the old superstitions associated with child-birth will pass with her.

At the present time the great problem as far as the midwife herself is concerned is one of remuneration. Nowadays midwives have to pay a considerable sum for their training and they naturally hope to get an adequate return for time and money spent.

A midwife now is not only expected to attend her patient at labour and ten days after, but also to advise and keep in touch with her throughout her pregnancy. Quite often after all the care taken and time expended the midwife finds the patient has not got the wherewithal to pay her. Some cases which have engaged a midwife are later sent to a hospital to be confined; this means a loss to the nurse engaged. As the life and health of the mothers and children of the community depend on the midwife, surely some means ought to be devised whereby she can be recompensed for services rendered.

The County Nursing Association is still extending its activities and there are now very few rural areas who have not their nurse-midwife within a reasonable distance. The nurses under the Association are inspected twice yearly, and without exception have been found very satisfactory and specially interested in all pertaining to their profession.

The County has five subsidised midwives working at Lymm, Tarvin, Upton, Hollingworth and Sandbach. The above midwives with one exception are granted £60 per annum and allowed to keep their own fees. At Sandbach the midwife (who is the only trained one there) is allowed £80 per annum, as by far the majority of the cases are attended by *bona-fide* midwives over 70 years of age and she does not get enough cases to enable her to make a livelihood without the extra grant.

### **Inspection of Midwives.**

The inspections have been carried out as in previous years by the Lady Assistant Medical Officer, assisted by some of the Health Visitors.

There have been 951 visits paid to midwives: 790 were formal inspections and the other 161 were paid to make enquiries *re* still-births, puerperal fever cases, infant deaths, etc.



The following facts were ascertained on inspection : —

	Bag.		Register.		Charts.		Home.		Person.	
	Trained.	Un-trained.	Trained.	Un-trained.	Trained.	Un-trained.	Trained.	Un-trained.	Trained.	Un-trained.
Satisfactory ...	218	32	218	32	217	35	219	35	219	36
Fair ...	2	5	—	5	3	2	1	2	1	—
Unsatisfactory	—	1	—	1	—	—	—	—	—	1

Nine midwives cannot take the temperature nor pulse of their patients.

During 1928 no midwife has been reported to the Central Midwives' Board.

The Cheshire Midwives' Association (affiliated to the Midwives' Institute) was formed over 3 years ago and had its Annual Meeting at Chester Castle in October, 1928. Dr. Charles Wilson (Chairman of the Maternity and Child Welfare Committee) presided at this meeting, and Dr. Frances Ivens gave an interesting address to an appreciative audience of midwives from all parts of the County.

During the Sessions of 1927 and 1928 a series of lectures were given by Doctors at seven centres in the County. These lectures were well attended and enjoyed by the members. The Association has to tender its thanks and appreciation to the Lecturers for their services.

In 1928 two midwives, one an independent midwife, practising in an Urban district, and the other a County Nursing Association Nurse practising in a Rural area, attended a month's Refresher Course at Plaistow Maternity Hospital. Both midwives are very grateful to the Maternity and Child Welfare Committee for allowing them a grant to attend the Course. This is the second year that two midwives have been sent to these Courses. The Maternity and Child Welfare Committee in 1926 agreed to allow annually two midwives who have been practising in the County area at least five years to go to Plaistow for a month's Refresher Course.

The following notifications have been received under the Central Midwives' Board Rules :—

		Artificial Feeding.		Source of Infection.		Ophthalmia Neonatorum.		Laying out of the Dead.		Death of a Child.		Still-Births.		Medical Help.
Trained	...	60	...	43	...	48	...	78	...	6	...	69	...	1551
Untrained	...	8	...	8	...	11	...	—	...	2	...	10	...	272

### Puerperal Pyrexia.

One hundred and fifty-seven cases of Puerperal Pyrexia were notified during 1928. This included two cases of Pneumonia just before the onset of labour and four abortions.

The day of onset was as follows :—

1st day	...	...	...	2 cases.
2nd day	...	...	...	16 „
3rd day	...	...	...	32 „
4th day	...	...	...	20 „
5th day	...	...	...	16 „
6th day	...	...	...	16 „
7th day	...	...	...	14 „
8th day	...	...	...	12 „
9th day	...	...	...	7 „
10th day	...	...	...	6 „
11th day	...	...	...	2 „
12th day	...	...	...	4 „
13th day	...	...	...	2 „
14th day	...	...	...	1 „
22nd day	...	...	...	2 „
29th day	...	...	...	1 „

The following are some of the causes other than Puerperal Fever to which the raised temperature was attributed—

Kidney Disease, 1 case.  
 Influenza, 12 cases.  
 Phlebitis, 8 cases.  
 Adherent Placenta, 6 cases.  
 Pulmonary Embolism, 1 case.  
 Bronchitis, 6 cases.  
 Pneumonia, 5 cases.  
 Mastitis, 8 cases.  
 Anæmia, 4 cases.

Pelvic Peritonitis, 1 case.  
 Lacerated Vagina, 1 case.  
 Phthisis, 1 case.  
 Pyletis, 1 case.  
 Cystitis, 1 case.  
 Tonsilitis, 1 case.  
 Appendicitis, 1 case.  
 Abscess of Labium, 1 case.  
 Mosquito Bite, 1 case.  
 Rheumatism, 1 case.  
 Constipation, 2 cases.

Thirty-eight of the cases were treated in Hospital. Twenty-four cases of Pyrexia were notified by midwives and not verified by a Doctor.

Disinfection of the midwife in contact with the case was carried out in 87 cases.

Eight cases were seen by Specialists. Day and Night Nurses were supplied in one case and a Day Nurse in one other case. Thirty-three cases were treated in Hospitals.

### **Nursing and Maternity Homes.**

At the end of 1928 there were 36 Nursing and Maternity Homes registered. Seven of the Maternity Homes that were registered during 1927 have been given up, and one, owing to the Wallasey Borough extension, ceased to be under County supervision. There have been six new Homes registered.

One hundred and forty-three visits of inspection have been paid to these Homes. Any advice tendered as to better equipment, changing of rooms, etc., has been carried out.

In the 36 Homes there have been 363 births (18 of these were still-births) and 208 medical and surgical cases.

One hundred and eighteen of these births occurred in the Bromborough Pool Maternity Home.

### **Births, etc., Visitations by the Health Visitors.**

During 1928 the visiting of children under five years of age has been carried out as in previous years. What is being aimed at is to pay monthly visits to children under one year old, quarterly visits during the 2nd year, and twice yearly visits to children 2—5 years old.



There are still quite a number of births which are not notified, knowledge of which births is gained through lists supplied by the Registrars. This is much to be regretted as such children are two months or more before they are visited. So often if their mothers have had any difficulty in feeding their infants, the Health Visitor arrives to find the breast-milk gone, and the baby's digestive organs thoroughly upset by various infants' foods, which have been tried one after the other on the recommendation of neighbours or others.

The number of visits to notified babies under one year has worked out at an average of 6.5 per child in areas other than Stalybridge and Dukinfield. The averages for the latter two districts are 11.5 and 9 respectively. At Stalybridge and Dukinfield the Health Visitors are responsible for the Infant Welfare work and Tuberculosis visiting and have no School visiting, etc.

The staff of Health Visitors has been increased and there are now 37 Health Visitors, consequently the number of home visits has increased during 1928.

In Runcorn, where there are Infant Welfare Centres held twice weekly, Minor Ailment Clinics daily and occasional Eye and Orthopædic Clinics much of the Health Visitor's time is spent at the Health Centre. As a result the Home Visiting suffers. At present Runcorn and Halton have three Health Visitors, and in spite of their united strenuous efforts and devotion to duty the number of visits to notified babies under one year worked out at just under 6 per child. This number is not sufficient for a congested Urban area.

The following is a summary of the visits paid by the Lady Medical Officer and Health Visitors during 1928:—

First visits to infants under 1 year	...	...	5,954
Revisits to children under 1 year (Ophthalmia, etc.)	...	...	37,537
Revisits to children over 1 year	...	...	44,327
Visits to expectant mothers	...	...	1,293
Visits to midwives	...	...	951

### **The Method of Feeding Babies.**

The following table shows the method of feeding of children up to six months of age. There were 1,140 rural cases and 1,360 urban cases:—



	BREAST.					MIXED.					ARTIFICIAL.				
	1924	1925	1926	1927	1928	1924	1925	1926	1927	1928	1924	1925	1926	1927	1928
1st Month— Rural ...	83	81	80	80	84	4	4	6	6	4	13	15	14	14	12
Urban ...	81	80	80	80	78	4	4	3	3	5	15	16	17	17	17
2nd Month— Rural ...	77	76	76	73	78	5	4	7	7	5	18	20	17	20	17
Urban ...	76	76	71	76	76	4	4	3	3	6	20	20	26	21	18
3rd Month— Rural ...	74	72	71	71	73	6	5	8	9	6	20	23	21	20	21
Urban ...	70	71	69	73	70	4	5	5	4	7	26	24	26	23	23
4th Month— Rural ...	71	68	67	66	70	8	7	9	10	8	22	25	24	22	23
Urban ...	65	64	60	66	65	8	9	8	6	9	27	27	32	28	26
5th Month— Rural ...	70	65	65	64	67	8	7	11	12	8	22	28	24	22	25
Urban ...	63	63	56	64	64	8	9	8	7	10	29	28	36	29	26
6th Month— Rural ...	67	64	68	60	65	9	8	11	13	9	24	30	26	27	26
Urban ...	60	60	55	62	61	8	10	9	8	12	32	30	36	30	27

At the end of six months 63 per cent. of the mothers were able to feed their babies entirely on the breast, 10.5 per cent. had breast feeding, and some form of artificial feeding, and 26.5 per cent. were artificially fed.

This is a slightly higher percentage of breast feeding than was noted for several years.

The method of feeding till six months old and health of child at 12 months is shown below (4,353 cases):—

			Good. %		Fair %		Poor. %
Breast	{	Rural ...	80	...	17	...	3
	{	Urban ...	83	...	14	...	3
Mixed	{	Rural ...	71	...	26	...	3
	{	Urban ...	72	...	24	...	4
Artificial	{	Rural ...	65	...	30	...	5
	{	Urban ...	60	...	32	...	8

### Health of Infants.

The illnesses from which the children between one and two years of age have suffered during the first year of life are shown in the following tables, and the ages at which they suffered from these illnesses:—

		Total.	Birth to 3 months. %	3 months to 6 months. %	6 months to 9 months. %	9 months to 12 months. %
Respiratory Diseases	... 30%	...	2	... 6	... 10	... 12
Convulsions	... 9%	...	·6	... ·1	... ·1	... ·1
Gastro Enteritis	6%	...	·5	... 1·5	... 2	... 2
Measles	... 5%	...	—	... ·5	... 2	... 2·5
Whooping Cough	6%	...	·1	... 1·4	... 2	... 2·5
Marasmus	... 2%	...	1	... ·3	... ·5	... ·2

There were only slight epidemics of measles and whooping cough during 1928.

### Health of the Older Children.

In the following table the health of the children at two years, three years and four years respectively who have been visited during 1928 is shown and the method of feeding during the first six months of life:—

		Health. 2 years. 4030 children.			Health. 3 years. 4202 children.			Health. 4 years. 3729 children.				
Feeding.		Good.	Fair.	Poor.	Good.	Fair.	Poor.	Good.	Fair.	Poor.		
Breast—		%	%	%	%	%	%	%	%	%		
Rural	...	81	16	3	...	80	16	4	...	82	16	2
Urban	...	80	16	4	...	80	18	2	...	83	14	3
Mixed—												
Rural	...	76	20	4	...	70	26	4	...	78	19	3
Urban	...	70	21	9	...	70	27	3	...	70	23	7
Artificial—												
Rural	...	61	24	5	...	63	31	6	...	62	27	11
Urban	...	64	28	8	...	61	30	9	...	61	33	6

The illnesses from which the above children have suffered are as follows:—

	2 years	3 years	4 years
	%	%	%
Respiratory Diseases	... 11	... 7	... 7
Measles	... 8	... 9	... 9
Convulsions	... .02	... .01	... .01
Gastro Enteritis	... .5	... .1	... .05
Whooping Cough	... 6	... 6	... 5
Scarlet Fever	... .04	... .2	... .3

Signs of Rickets (early and late) were noted in 6 per cent. of the children between one and four years of age (5.4 per cent. were slight, .6 per cent. were marked).

### Deaths of Infants under One Year.

Table giving particulars of deaths of 136 children under one year and over 10 days (88 males, 48 females):—

	Method of Feeding.	10 days to 3 months	3 months to 6 months	6 months to 9 months	9 months to 12 months
Respiratory Diseases	... Breast	... 11	... 3	... 2	... 6
	... Artificial	... 7	... 6	... 3	... 5
Convulsions	... Breast	... 3	... —	... —	... —
	... Artificial	... 3	... 3	... —	... 1
Marasmus	... Breast	... 1	... —	... —	... —
	... Artificial	... 7	... 2	... —	... 1
Whooping Cough	... Breast	... —	... 2	... 2	... 1
	... Artificial	... 2	... 2	... —	... 3
Gastro-Enteritis	... Breast	... 1	... —	... —	... —
	... Artificial	... 1	... —	... 2	... 1
Measles	... —	... —	... 1	... 2	... 4
Malformations	... —	... 12	... 2	... —	... 1
Meningitis	... Breast	... 1	... 2	... 1	... —
	... Artificial	... —	... —	... 1	... 2
Feebleness and Prematurity	... —	... 12	... 1	... —	... —
Tubercular Meningitis	... —	... —	... —	... 3	... —
Tubercular Mesenterica	... —	... —	... 1	... 2	... 3
Intussusception	... —	... —	... 1	... —	... —
Diphtheria	... —	... —	... —	... 1	... —
Syphilis	... —	... 1	... —	... —	... 1

## Deaths of Older Children.

Table giving particulars of deaths of 109 children (59 males and 50 females). Children one year to five years occurring in 1928:—

		1 year to 2 years.	2 years to 3 years.	3 years to 4 years.	4 years to 5 years.
Respiratory Diseases	...	17	10	3	2
Convulsions	...	—	3	—	—
Whooping Cough	...	2	3	3	—
Gastro-Enteritis	...	2	1	—	—
Meningitis	...	5	3	2	—
General Tuberculosis	...	1	—	1	1
Tabes Mesenterica	...	3	3	—	1
Tubercular Meningitis	...	1	3	—	—
Diphtheria	...	1	1	—	1
Measles	...	6	4	2	—
Accidental Death—					
Drowning	...	—	2	1	1
Scalded	...	3	1	1	—
Killed by Motor	...	—	2	—	—
Appendicitis and Peritonitis	...	—	—	3	—
Mastoid (Operation)	...	1	—	—	1
Hydrocephalus	...	1	—	—	—
Kidney Disease	...	—	—	—	2
Septicæmia	...	—	1	—	—
Infantile Paralysis	...	—	1	—	—
Intussusception	...	—	1	—	—
Acute Laryngitis	...	1	—	—	—
Diabetes	...	—	—	1	—

## Deaths of Very Young Infants.

The following table gives particulars of deaths of 113 children aged 10 days or less (64 males, 49 females):—

Premature birth	...	34—14	births attended by	Doctor.
	...	20	“	Midwife.
Atelectasis	...	1—1	“	Doctor.
Difficult labour	...	11—11	“	Doctor.
Icteous Neonatorum	...	1—1	“	Doctor.
Asphyxia	...	1—1	“	Doctor.
Convulsions	...	11—7	“	Doctor.
	...	4	“	Midwife.
Malformations	...	26—16	“	Doctor.
	...	10	“	Midwife.
Feebleness and Debility	...	18—9	“	Doctor.
	...	9	“	Midwife.
Pemphigus	...	3—1	“	Doctor.
	...	2	“	Midwife.
Internal Hemorrhage	...	4—4	“	Midwife.
Overlain	...	3—3	“	Midwife.

(Inquests).

In seven of the above cases the mothers had been working in a factory and six other mothers had done cleaning and laundry work for a living during pregnancy. Five of the children were of illegitimate birth. Among the above deaths there were eight twin pregnancies, one of whom survived. In 37 cases the babies were first babies.



## Still-births.

The following table gives some particulars of 156 still-births that have been enquired into, viz., 91 males and 65 females:—

History of Shock or accident, etc. ...	...	17	Premature
Born before arrival ...	...	6	Full-time
Prolapse of Cord ...	...	5	Full-time
Albuminuria ..	...	2	Premature
Ill-health of Mother ...	...	26—13	Premature
		13	Full-time
Malpresentation or Difficult Labour ...	...	44	Full-time
Unknown cause ...	...	23—13	Premature
		10	Full-time
Malformation ...	...	7	Full-time
Placenta Prævia ...	...	6	Premature
Asphyxia ...	...	6	Full-time
Strangulated (cord round neck) ...	...	2	Full-time
Ante-partum Hemorrhage ...	...	10	Premature
Syphilis ...	...	1	Premature
Eclampsia ...	...	1	Full-time

In three cases the still-births were illegitimate births. Forty-seven cases occurred in Primiparae. In seventeen cases there was a previous history of more than one miscarriage or still-birth, and in 12 cases a history of one miscarriage or still-birth. In four of the 12 cases the still-birth occurred in the second pregnancy, so that the mother in each case had not given birth to a live child.

Of the 154 mothers (there were two sets of twins). Eleven of these worked in a factory during pregnancy and seven of them followed other occupations.

## Ophthalmia.

There have been notified 76 cases of inflammation of or discharge from the eyes in new-born babies. Fifty-three of these cases were only slight. The ages of the infants on the day of onset ranged from three days to nine days old. Most of the cases occurred between the third and fifth days.

In 15 cases the birth was attended by a doctor and 61 cases were attended by midwives. Two of the latter cases were not notified.

The following is a description of the cases:—

Slight Cases—one eye affected	...	10
both eyes „	...	43
Severe Cases—one eye „	...	9
both eyes „	...	14

Three of the severe cases were treated in hospital. All the cases made a perfect recovery.

## Illegitimate Children.

Special enquiries have been made into the circumstances of 114 illegitimate children born in 1928. In 48 of the cases the mothers were unemployed and in 66 instances the mother was employed.

One hundred and three were found to be quite satisfactory, nine fairly satisfactory, two cases were unsatisfactory. At least nine of these children are brought to Welfare Centres and consequently kept under medical supervision. The father was known to be contributing in 54 cases, and in six cases it was impossible to ascertain. Forty-seven fathers made no contribution to the upkeep of their children. Six of the fathers had since married the mothers and one father died. Forty-three of the babies were being cared for by the mothers, 46 by the grandmother, eight by other relatives, five by neighbours, five were boarded out, two were adopted, five were in Institutions, and one baby died when three days old.

## Expectant Mothers.

During 1928 there were visits and re-visits paid by Health Visitors to expectant mothers. Of the 212 cases that were visited during 1928 (the baby being born that year) the following interesting points have been noted:—

### Health of Mother.

Good.	Fair.	Poor.
62%	28%	10%

Ten per cent. of the mothers were advised to seek medical advice; one per cent. of these were urged to do so on account of passing a scanty amount of urine. Eight per cent. suffered from constipation. Fifty-three per cent. had several carious teeth, and in 9 per cent. of the cases the teeth were noted to be in a very bad condition. Eighteen of the women had a set or sets of artificial teeth.

90% Normal babies— 68% Breast fed.

32% Artificial.

6% Not strong.

4% Stillborn.

Of the 212 mothers only four of them worked in a factory during their pregnancy and their babies were healthy and breast-fed.

## Maternity and Child Welfare Centres.

Towards the end of 1928 permission was given by the County Council to start three new Child Welfare Centres at Hoole, Kelsall and Malpas respectively, and three Ante-natal Clinics at Congleton, Runcorn and Sale respectively. At the latter three Clinics Obstetrical Specialists have been appointed to attend the consultations once a month. By an arrangement with the Committee of the Ashton-under-Lyne Infirmary any expectant mother from Dukinfield, Stalybridge or the surrounding neighbourhood may attend its Ante-natal Clinic which is held weekly at the Infirmary. These various Centres and Clinics will not be started until 1929.

The Maternity and Child Welfare Centres continue to do good work among the mothers and babies in the County area. Once a mother develops the habit of bringing her baby to the Centre regularly she continues to do so with each succeeding child. Many of the mothers take a very special interest in their Centre, encourage their friends and neighbours to become members, and also collect funds to help their more unfortunate sisters.

The only two voluntarily financially aided Centres in the County area, namely, at Swetenham and Utkinton, are still very successfully carried on by two ladies. The work done by these two ladies, and the whole band of voluntary workers throughout the County, is very much appreciated, and this opportunity is taken of recording very grateful and appreciative thanks to them.

During 1928 a series of lectures on cookery, etc., was given at one Centre. These were much enjoyed by the mothers and it is hoped to extend this work. It is found impossible to have any talks to mothers during the busy afternoon when the doctor is present. On days when a sewing meeting is held the mother, relieved of her child, has the opportunity to listen and benefit from a lecture. So much could be done in this way in teaching personal hygiene and health in the home, cookery, sick nursing, etc., that would benefit both the parents and their children.



The following is a list of the Welfare Centres :—

	Hoyle (1 day per week).	Runcorn (2 days per week).	Sale (2 days per week).	Stalybridge (2 days per week).	Nantwich (1 day per week).	Utkinton (Fortnightly)	Whaley Bridge(Fort- nightly).	Marple (Fort- nightly).	Heswall (Fort- nightly).
Consultations held ...	738	1112	2007	1938	1852	32	480	397	548
Average Attendance per Meeting ...	39	58	50	46	36	13	33	24	32
Total Attendances made ...	1687	4916	4625	4250	2774	324	831	556	737
Number of New Cases (1928) ...	86	260	212	212	90	—	36	44	10

	Congleton (1 day per week).	Dukinfield (2 days per week).	Owley Wood (Fort- nightly).	Lymm (1 day per week).	Neston (1 day per week).	Bollington (Fort- nightly).	Northwich Rural (1 day per week).	Disley (Fort- nightly).	Sandbach (Fort- nightly).
Consultations held ...	1397	3497	339	449	415	417	731	405	318
Average Attendance per Meeting	46	56	24	34	29	41	37	21	32
Total Attendances made ...	2208	5426	613	1624	1290	955	1650	522	685
Number of New Cases (1928) ...	128	183	50	57	75	55	82	24	73

	Middlewich (1 day per week).	Hollingsworth (Fort- nightly).	Compstall (Fort- nightly).	Hazel Grove (Fort- nightly).	Bredbury (Fort- nightly).	Stockton Heath (Fort- nightly).	Swettenham (Fort- nightly).	Moreton (Fort- nightly).
Consultations held ...	782	479	410	538	621	309	62	96
Average Attendance per Meeting ...	28	28	25	44	36	31	5	16
Total Attendances made ...	1270	680	495	1468	877	778	71	96
Number of New Cases (1928) ...	61	36	13	85	68	60	15	—



### Gold Cross Society.

During 1928 the Cheshire Gold Cross Society met three times, twice in Chester and once at Congleton. As explained in previous reports the object of this Society is to bring the voluntary workers together to discuss difficulties arising in the work of the Centres and to exchange ideas, etc.

The Annual Meeting was held at the Castle, Chester, in May, 1928. At this meeting the work of the Competitions was on view and the Shields and Pictures were presented to representatives by the Dean of Chester. After the presentation the Dean gave a very interesting and instructive address on "Parenthood."

The Gold Cross Shield, which is competed for annually by the Centres, was won by Lymm for the third year in succession.

## Section VII.—Miscellaneous.

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### Housing.

Good progress continues to be made with the supply of houses as the appended Table shews. Particular activity in this direction during the year under review has been shewn in the following districts, viz.:—Crewe Municipal Borough, Dukinfield Municipal Borough, Stalybridge Municipal Borough, Altrincham Urban District, Bebington and Bromborough Urban District, Bredbury and Romiley Urban District, Cheadle and Gatley Urban District, Ellesmere Port and Whitby Urban District, Lymm Urban District, Sale Urban District, Sandbach Urban District, Bucklow Rural District, Macclesfield Borough and Rural District, Northwich Rural District, Runcorn Rural District and Wirral Rural District.

			With State Assistance.				No. of in- spections of dwelling houses during 1928.
DISTRICT. BOROUGH.			New houses by local authority.	Built during 1928 by other bodies or persons.	Otherwise.		
Congleton	...	...	—	16	...	—	314
Crewe	...	...	165	208	...	34	380
Dukinfield	...	...	88	1	...	—	2115
Hyde	...	...	30	110	...	12	652
Stalybridge	...	...	56	2	...	—	267
Macclesfield	...	...	44	30	...	20	967
URBAN DISTRICTS.							
Alderley Edge	...	...	Not stated				
Alsager	...	...	—	4	...	3	68
Altrincham	...	...	56	18	...	7	388
Ashton-on-Mersey	...	...	—	18	...	43	154
Bebington and Bromborough	...	...	266	71	...	119	1032
Bollington	...	...	—	4	...	—	68
Bowdon	...	...	—	—	...	1	—
Bredbury & Romiley	...	...	88	21	...	13	418
Buglawton	...	...	—	—	...	—	171
Cheadle and Gatley	...	...	60	186	...	86	270
Compstall	...	...	—	—	...	1	58
Ellesmere Port and Whitby	...	...	38	43	...	2	425
Hale	...	...	—	—	...	44	59
Hazel Grove and Bramhall	...	...	(121 new houses)	—	...	—	305
Hollingworth	...	...	—	—	...	—	15
Hoole	...	...	—	2	...	15	37
Hoylake and West Kirby	...	...	—	—	...	89	854
Knutsford	...	...	11	6	...	—	115
Lymm	...	...	—	—	...	—	—
Marple	...	...	12	40	...	—	266
Middlewich	...	...	—	32	...	1	203
Mottram-in- Longdendale	...	...	—	4	...	—	204
Nantwich	...	...	—	—	...	—	416
Neston and Parkgate	...	...	—	76	...	15	167
Northwich	...	...	26	2	...	—	1009
Runcorn	...	...	—	12	...	7	873
Sale	...	...	44	51	...	47	110
Sandbach	...	...	24	21	...	2	671
Tarporley	...	...	—	4	...	1	100
Wilmslow	...	...	—	4	...	33	29
Winsford	...	...	—	38	...	—	204
Yeardsley-cum-Whaley	...	...	—	4	...	—	53
RURAL DISTRICTS.							
Bucklow	...	...	—	159	...	—	944
Chester	...	...	—	55	...	82	109
Congleton	...	...	—	17	...	26	487
Disley	...	...	—	14	...	4	21
Macclesfield	...	...	58	40	...	32	915
Malpas	...	...	—	—	...	3	10
Nantwich	...	...	—	4	...	86	54
Northwich	...	...	2	68	...	19	940
Runcorn	...	...	22	63	...	36	435
Tarvin	...	...	8	3	...	22	130
Tintwistle	...	...	—	—	...	—	132
Wirral	...	...	—	211	...	175	1788

## Milk Supply.

It is gratifying to be able to report an increase in the interest which is being manifested in the purity of milk. Both producers and retailers evince a desire to ensure this—the former, I think, more than the latter. The County Agricultural Committee and the National Farmers' Union are still pursuing their campaign in this direction with deserved success. The public here would do well to imitate the American people by increasing their consumption of milk and by making it a regular article of diet instead of regarding it merely as an ingredient of tea, coffee and puddings. It is well to remember in this connection that milk is probably the most carefully guarded food that is served out to the public. The number of Acts, Orders and Regulations framed to this end and well observed in practice is greater than is the case with any other foodstuffs. This fact deserves more publicity than has up to now been accorded to it.

## Graded Milks.

At the end of the year there were

- 2 Producers licensed to sell "Certified" Milk,
- 8 Producers licensed to sell "Grade A Tuberculin Tested" Milk,
- 25 Producers licensed to sell "Grade A" Milk, of which 8 were also licensed to bottle the same.

## Milk and Dairies (Consolidation) Act, 1915.

Under the above Act any District Medical Officer can take samples of milk in his area, and if on bacteriological examination these prove tubercular, he can notify the County Medical Officer (where the farm supplying the milk is in the County) and it is the duty of this Department to arrange for the cattle on the farm to be inspected by a Veterinary Surgeon, samples of milk analysed and the offending animals slaughtered under the Tuberculosis Order.

A number of District Councils take such samples, but the majority of the notifications come from Manchester, Liverpool, Warrington, Salford, Birkenhead and Stretford, the first named Authority being particularly active.

During 1928, 200 farms were inspected, 4,675 cattle examined, 730 samples taken, of which 188 proved positive.

As a result of these inspections 152 cattle were found tubercular and slaughtered.



## Food and Drugs (Adulteration) Act, 1928. Graded Milks.

The Chief Inspector of Weights and Measures reports as follows:—

“During the year ended 31st December, 1928, a total of 1,254 samples were taken, comprising 1,189 foods (of which 688 were milks) and 65 drugs. Of these, 52 foods and 3 drugs were certified by the County Analyst as being adulterated, not up to standard or not complying with Regulations as to labelling, etc.

Forty-four milks were thus reported against representing 6.3 per cent. of the milks obtained, and in the subsequent legal proceedings taken in 29 of these cases 11 (38 per cent.) were dismissed, the defendants pleading the case of *Hunt v. Richardson*.

A detailed account of the above has been supplied to the Ministry of Health.”

## Refuse Removal and Disposal.

Once more I am compelled to draw attention to the fact that many Local Authorities seem content to leave the disposal of refuse to householders or, if that very easy solution of the difficulty is denied to them by the popular voice, to let a contract to someone to collect it and dump it in some convenient spot leaving nature to do the rest. These refuse dumps are an abominable nuisance and a really potential danger to health. Even Boy Scouts now know this. I am not condemning refuse dumps *in toto* but only those which are so used that nuisance and danger to health are likely to arise. Common-sense and care are alone necessary in the management of refuse tips. I have had to draw the attention of several District Councils to this question during the year and I hope that these general remarks will emphasise the importance of the subject.

## Water Supply.

Congleton Municipal Borough.—A scheme for augmenting the water supply is in hand. This will increase the storage accommodation and modernise the pumping plant. The springs which supply the Borough are to be deepened and it is hoped that these proposals when completed will provide an abundance of pure water.



Macclesfield Municipal Borough.—A number of extensions of mains have been carried out during the year but a scheme is still under consideration for dealing with the higher portions of Buxton Road and Hurdsfield Road.

Alsager Urban District.—Complaints as to dirty or discoloured water are, it is believed, now remedied by the removal of deposit from the mains.

Bollington Urban District.—During the year under review additions have been made to the pumping plant. Samples of water have been analysed on several occasions and proved quite satisfactory.

Buglawton Urban District.—Some trouble arose during the year owing to the water from a new bore-hole having a solvent action upon lead, though up to the present no ill-effects amongst users appear to have occurred. Means for the prevention of this solvent action are in the hands of the County Analyst.

Bredbury and Romiley Urban District.—Some difficulty has been experienced in the matter of shortage of water but a scheme has been put in hand to lay a new 8 in. main from the Stockport Corporation supply and to deal with a shortage in the outlying portions of the district.

Compstall Urban District.—No extensions have taken place in this district during the year, and it appears that no difficulty has been experienced in maintaining the water supply of the area.

Cheadle and Gatley Urban District.—This district is supplied by the Stockport Corporation. There have been no important extensions during the year and with the exception of a few complaints of muddiness due to insufficient flushing there is nothing to be recorded.

Marple Urban District.—Some extensions have been made during the year on the Council's Housing site and Stockport Road. Difficulty has from time to time been experienced here by incrustation of mains and this question appears to require constant consideration.

Nantwich Urban District.—A considerable amount of progress has been made here with the new water scheme. The service reservoir is completed and at Baddiley Mere

the willow beds have been removed over an extent of about four acres. The weir has been raised so as to increase the storage capacity by 16,000,000 gallons. Possible pollution from the Mere Farm has, it is believed, been averted. A number of other alterations for pumping, filtration, and chemical treatment are well in hand.

Northwich Urban District.—It is stated that the supplementary scheme inaugurated in 1926 has proved efficient.

Sandbach Urban District.—Means have been adopted to increase the pressure into the distributing mains in this area and a number of houses have been connected up to a new main.

Bucklow Rural District.—A scheme has been put before the Ministry of Health to supply the Parish of Plumbley and it is understood that one is under consideration for Mobberley. A number of new mains have been laid in Baguley, Northenden, Northen Etchells, Partington and Timperley.

Congleton Rural District.—The supply to Holmes Chapel is said to have been greatly improved recently. A part of Cranage is also supplied but the remaining parts of Cranage are still in want of a pipe supply. The following portions of this district appear to need an improvement of their water supply, namely: Twemlow, Goostrey, Leese, Hassall and Smallwood.

Chester Rural District.—Hapsford, Elton and Ince are now reported to be satisfactorily supplied.

Macclesfield Rural District.—No important extension of public supplies has been made during the year. Complaints are under consideration by the Council of the insufficiency of supplies at Lane Ends, Sutton, and Rainow.

Nantwich Rural District.—There are no fewer than 18 townships in this Rural District which have no public water supply. The Medical Officer of Health states that the urgency of the supply varies in each township, but goes on to say that in every case they would benefit greatly from a public supply. A scheme for supplying Church Minshull and Wettenhall is at the moment under consideration, but Burland, which is said to be somewhat

urgently in need, has not been the subject of a scheme up to now. Experimental boring is proceeding to ascertain whether a supply cannot be obtained to augment what is already being drawn from the Liverpool Corporation mains. It is too early yet to prophesy how far this will relieve the needs of the Nantwich Rural District.

Northwich Rural District.—A very considerable extension of water supply has been undertaken by this district. The schemes so far completed have involved the laying of no less than 58 miles of trunk and distribution mains with 275 new connections during the period mentioned. This District Council are carrying out duties in the matter of water supply in a highly laudable fashion and are working in a most desirable manner in conjunction with the adjoining Urban Districts of Northwich and Winsford. In fact, the scheme is perhaps best described as the Mid-Cheshire Water Scheme and when completed cannot fail to be highly satisfactory from the point of view of public health.

Tarvin Rural District.—Certain small extensions and improvements have been carried out during the year, but Farndon, Burwardsley, Broxton, Tilston, Churton, Tattenhall, Newton and Shocklach supplies are still in need of improvement.

Wirral Rural District.—The parishes of Caldy, Frankby, Grange, Greasby and Saughall Massie now obtain a supply from the West Cheshire Water Board.

Runcorn Rural District.—Some extensions of a minor nature have taken place in Frodsham, Dutton, Antrobus and Oakmere, but supplies are still unsatisfactory in Higher and Lower Whitley, Antrobus and Kingsley.

### **Sewerage and Sewage Disposal.**

Congleton Municipal Borough.—No extensions of sewers have been made recently. Some alterations at the Disposal Works are in hand.

Dukinfield Municipal Borough.—The Bio-æration plant for the treatment of one and a quarter million gallons of sewage daily is now in operation and a considerable addition has been made to the sludge lagoons.



Macclesfield Municipal Borough.—A number of new sewers or extensions of existing sewers have been carried out. Moss Lane and Congleton Road are said to be still without a proper system of sewers.

Alsager Urban District.—A relief storm water drain in Audley Road has been completed. The irrigation area for storm water at the disposal works has been amended and the new scheme is stated to be satisfactory.

Bollington Urban District.—No new works have been carried out during 1928. Long Lane and the higher portions of Kerridge are still without a proper system of sewers.

Bowdon Urban District.—It is stated that the disposal works have been visited and inspected several times during the year and no complaints have been reported.

Hollingworth Urban District.—Two unsatisfactory samples of effluent have been obtained by the Mersey and Irwell River Inspectors. Alterations to the precipitating tank and new land filters should result in an improvement.

Lymm Urban District.—A number of new lengths of sewers were laid during the year.

Sandbach Urban District.—Certain alterations at the disposal works dealing with the Bradwall Road and Elworth Street area have been carried out. A scheme for providing sewers for that portion of the district which is not sufficiently sewered at present is under consideration.

Hale Urban District.—About three-quarters of the sewage in the area is dealt with on the activated sludge system at the Council's own Sewage Works and the remainder by the Altrincham Urban District Council.

Compstall Urban District.—It is desirable that a system of sewage disposal should be adopted for this small district.

Cheadle and Gatley Urban District.—Only one small extension of the sewers has been made here, namely, near the Handforth boundary.

Buglawton Urban District.—No sewer extensions were made during 1928.



Bredbury and Romiley Urban District.—Improvements are being carried out at one of the Sewage Disposal Works here and are contemplated at the other one. A number of sewer extensions have been carried out during 1928.

Handforth Urban District.—A system of sewage disposal is somewhat urgently needed in this district.

Knutsford Urban District.—The new Disposal Works are stated to be completed and in use.

Marple Urban District.—New sewers have been laid at Stone Row and further sewerage work is in progress to provide for Strines Road and Strines.

Nantwich Urban District.—The whole of the sewage from this area discharges into the River Weaver and nothing further has been done with regard to the new sewage disposal scheme. It is time that this matter received the serious consideration of the Urban District Council.

Winsford Urban District.—A number of defects both in sewerage and sewage disposal have been remedied during the year and others are contemplated.

Tarporley Urban District.—Certain pollution takes place in Eaton, Utkinton and Rushton.

Ellesmere Port and Whitby Urban District.—A new scheme is being prepared for more effectively disposing of the sewage from this area.

Neston and Parkgate Urban District.—The Disposal Works here have been recently modified and an Engineer has been retained to advise upon extensions of sewers.

Bucklow Rural District.—Certain extensions of sewers have been carried out in Dunham Massey, Tabley, Bexton, Timperley and Northen Etchells. A Ministry of Health Inquiry into the sewage disposal of Timperley has been held but the result of the same cannot be considered until a very much larger scheme has been planned for this and a number of adjoining areas.

Congleton Rural District.—Sewerage schemes are required at Wheelock, Goostrey, Mow Bank, Kent Green and Rode Heath.

Disley Rural District.—Certain sewer extensions at the east end of Disley and at Newton are now completed. Higher Disley and Disley Wood still need some provision in this direction.

Macclesfield Rural District.—A considerable length of sewer has been laid in Poynton to provide facilities for Green Lane and Middlewich Road. Thirty houses at Eaton Bank have now been coupled up into the Buglawton sewerage system. A new scheme for Poynton is under consideration.

Nantwich Rural District.—In this area the townships of Wybunbury, Bunbury, and parts of Audlem and Shavington are seriously in need of a system of sewerage. The conditions at Church Coppenhall in this respect are very bad, and the same remark applies to Broad Lane and parts of Willaston and Stapeley. Schemes for sewerage Shavington and Wistonia are in hand.

Chester Rural District.—Great and Little Saughall, Blacon and 'Mickle Trafford, are without a proper system of sewers. A scheme is being prepared to improve conditions in Littleton and Christleton.

Tarvin Rural District.—In this district the Gow, Dee, and Tilston Brook, and the Aldford Brook are admittedly polluted. It is stated that Aldford Village is the only part of the district with a proper system of sewers. The District Council has been furnished with a complete list of pollutions and have been asked to take such action as is necessary to remedy these.

Runcorn Rural District.—Several extensions of sewers have been made in Frodsham, Frodsham Lordship, Stockton Heath, and Weston. Certain improvements have been carried out at Daresbury, Moore, and Newton, and a scheme for dealing with the sewage from Stockton Heath, Lower Walton, Latchford Without and Grappenhall is being considered.

### **Rivers Pollution.**

The appointment of a County Sanitary Officer has rendered a more complete survey of the rivers and streams possible. Many new sources of pollution have been discovered and the old and known ones have been kept under better supervision than had been practicable before.

It is to be hoped that your Council's desire to form a Joint Committee to deal with all questions relating to the pollution of the River Dee will eventually be supported by all the Authorities concerned. It is only by concerted action that any permanent improvement in the condition of this river will be secured.

### Blind Persons Act.

This Act is carried out under the general supervision of your Council by the Home Teaching Societies at Chester, Ashton-under-Lyne, Macclesfield, Stockport and Liverpool. The work is exceedingly well done by these Home Teaching Societies.

The estimated cost for 1928-9 is as follows:—

	£	s.	d.
Grants to Home Teaching Societies ...	1600	0	0
Printing, Postages, Travelling, &c. ...	15	0	0
Half cost of Home Teacher,			
Macclesfield Area ... ..	80	0	0
Chester Area ... ..	80	0	0
Quarter ditto, Ashton-under-Lyne Area	40	0	0
Augmentation grants to Henshaw's			
Workshop Employees ... ..	100	0	0
National Library of Blind ... ..	20	0	0
	<hr/>		
	£1935	0	0
	<hr/>		

The total number of Blind Persons for each of whom a grant of £3 per annum is made to the Home Teaching Societies is 568.

Sixty-four free wireless licences were issued to Blind Persons in the County during 1928.

The following is a copy of a return supplied to the Ministry of Health regarding unemployable Blind:—



# RETURN REGARDING (A) THE GENERAL AND (B) THE FINANCIAL CIRCUMSTANCES OF THE UNEMPLOYABLE BLIND OVER 16 YEARS OF AGE.

## A. GENERAL CIRCUMSTANCES.

### (1) In Institutions (including defectives, see (4)).

(a) Number in Homes and Hostels for the Blind	...	...	24
(b) " " Poor Law Institutions	...	...	47
(c) " " Mental Asylums	...	...	25
(d) " " Other Institutions	...	...	1
TOTAL OF (1)	...	...	97

### (2) At Home or in Lodgings (including defectives, see (4)).

(a) Number of married women living with their families	...	73
(b) " " married men living with their families	...	90
(c) " " children or members of a family living with parents, relatives or friends	...	185
(d) " " widows living with dependent children	...	10
(e) " " widowers living with dependent children	...	6
(f) " " widows, widowers, married or single persons living alone	...	64
TOTAL OF 2 (a)—(f)	...	428

(g) Number of persons included in any of the above categories in receipt of Out-Relief from the Guardians	...	42
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3. (a) Total number of blind on the Register	...	679
(b) " " " blind on the Register who are classified as Unemployable	...	525

### 4. Defectives (included in (1), (2) and (3) above).

(a) Number of mentally defective persons provided for in Institutions or elsewhere	...	38
(b) " " mentally defective persons living at home	...	26
(c) " " deaf-blind provided for in Institutions or elsewhere	...	5
(d) " " deaf-blind living at home	...	25
(e) " " physically defective persons provided for in Institutions or elsewhere	...	5
(f) " " physically defective persons living at home	...	37
TOTAL OF (4)	...	136



**B. FINANCIAL CIRCUMSTANCES** of such unemployable blind over 16 as live at home or in lodgings (see **A** (2) (a) to (f) and (4) (b), (d) and (f) ).

	(a) Excluding Grants made by Voluntary Agency and/or L.A.	(b) Excluding Grants made by Voluntary Agency and/or L.A.
(1) Number with means* of 5/- a week or less	4	3
(2) „ „ „ from 5/- to 6/6 a week	12	12
(3) „ „ „ „ 7/6 to 10/- a week	91	58
(4) „ „ „ „ 10/- to 12/- a week	96	112
(5) „ „ „ „ 12/6 to 15/- a week	59	61
(6) „ „ „ „ 15/- to 17/6 a week	31	35
(7) „ „ „ „ 17/6 to 20/- a week	51	57
(8) „ „ „ „ 20/- to 25/- a week	26	29
(9) „ „ „ over 25/- a week (including persons of independent means	58	61
	—	—
TOTAL ... ..	428	428
	—	—

\* In calculating means, regard should be had to the principles set out in Circular.

TABLE A.

## VITAL STATISTICS FOR ALL DISTRICTS IN ADMINISTRATIVE COUNTY OF CHESTER, 1928

CAUSES OF DEATH.	Alderley Edge U.D.		Aleager U.D.		Altrincham U.D.		Ashton-upon-Mersey U.D.		Bebington and Brom-borough U.D.		Bollington U.D.		Bowdon U.D.		Bredbury and Romiley U.D.		Buglawton U.D.		Cheadle and Gatley U.D.		Compstall U.D.		Congleton M.B.		Crewe M.B.		Dukinfield M.B.		Ellesmere Port and Whitby U.D.		Hale U.D.		Handforth U.D.		Hazel Grove and Bram-hall U.D.		
(Civilians only)	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES ... ..	18	14	11	21	138	139	46	46	110	102	30	24	19	15	69	64	6	7	59	80	1	9	89	97	294	241	110	125	76	73	51	50	8	7	79	62	
1 Enteric Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	
2 Small-pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
3 Measles ... ..	...	...	...	...	4	3	...	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	1	...	...	1	...	1	...	...	...	...	...	...	...	
4 Scarlet Fever ... ..	...	...	...	...	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	2	...	...	...	...	...	...	1	...
5 Whooping Cough ... ..	...	...	...	...	1	2	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	1	2	4	...	2	...	1	...	...	...	...	...	...	...	...
6 Diphtheria ... ..	...	...	...	...	2	...	...	...	4	...	...	...	...	...	1	2	...	...	...	...	...	...	1	1	1	5	...	1	...	...	...	...	...	...	...	...	...
7 Influenza ... ..	...	...	...	...	2	5	1	...	3	2	...	...	2	1	2	1	1	...	...	...	...	...	2	5	16	14	2	3	...	...	3	2	...	...	...	1	1
8 Encephalitis Lethargica	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	
9 Meningococcal Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	
10 Tuberculosis of Respiratory System	1	1	1	2	8	5	2	...	10	6	3	3	1	1	2	1	...	...	3	...	...	...	4	4	25	17	7	2	4	4	1	3	...	...	3	2	
11 Other Tuberculous Diseases	1	...	...	...	5	3	...	...	1	3	...	...	...	...	...	...	...	1	...	2	...	...	...	3	5	5	2	4	2	2	...	...	...	...	3	1	
12 Cancer, Malignant Disease	2	4	2	2	15	18	6	5	13	8	3	3	1	4	7	6	...	...	10	11	...	...	13	14	33	31	12	17	13	3	9	8	1	...	10	8	
13 Rheumatic Fever ... ..	...	...	...	...	...	2	...	1	3	1	...	...	...	...	...	1	...	...	...	...	...	...	1	2	2	...	2	...	2	...	1	...	...	...	...	...	
14 Diabetes ... ..	...	...	...	1	...	...	1	1	1	1	1	...	...	...	...	2	...	1	...	...	...	...	1	4	2	3	1	1	...	4	1	1	...	...	1	...	
15 Cerebral Hæmorrhage, &c.	2	...	...	2	4	12	1	2	5	9	...	...	1	1	3	4	...	...	1	2	...	2	1	1	18	12	3	7	1	2	...	2	...	...	5	5	
16 Heart Disease ... ..	6	4	3	8	21	29	5	6	16	19	3	4	6	5	8	21	1	1	11	18	...	1	8	19	47	42	18	32	11	7	7	5	1	3	13	10	
17 Arterio-sclerosis ... ..	...	1	1	2	5	4	6	11	6	5	7	6	1	...	7	1	...	...	5	13	1	2	7	7	20	3	11	3	4	2	1	3	2	...	7	4	
18 Bronchitis ... ..	...	1	...	...	7	8	2	3	5	4	...	...	1	...	4	5	1	...	2	3	...	...	6	10	12	9	4	7	8	3	1	2	...	...	3	3	
19 Pneumonia (all forms) ...	1	1	...	1	5	8	7	1	5	7	...	1	...	...	3	1	1	...	5	5	...	...	4	3	17	11	14	8	7	4	5	2	...	2	6	3	
20 Other Respiratory Diseases	...	...	...	...	...	2	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	4	5	...	2	...	...	1	...	...	...	...	...		
21 Ulcer of Stomach or Duodenum	...	...	...	...	1	1	1	...	3	1	...	...	...	...	...	...	...	...	1	...	...	...	2	...	3	2	2	...	...	1	...	1	...	...	1	...	
22 Diarrhoea, &c. (under 2 years)	...	...	...	...	...	1	1	1	2	3	1	...	...	...	1	...	...	...	1	1	...	...	3	...	2	...	2	1	2	3	...	...	...	...	...	...	
23 Appendicitis and Typhlitis	...	...	...	...	4	...	...	...	...	1	...	...	1	...	2	...	...	...	1	1	...	...	1	...	1	1	...	...	...	...	3	...	...	...	...	...	
24 Cirrhosis of Liver... ..	...	...	...	1	1	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	3	...	1	...	...	...	1	...	...	...	...	...	...	
25 Acute and Chronic Nephritis	...	1	...	...	6	6	1	4	3	3	1	3	2	...	5	3	...	...	2	1	...	...	6	2	8	7	6	5	2	5	...	3	1	...	3	2	
26 Puerperal Sepsis ... ..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	
27 Other Accidents and Diseases of Pregnancy and Parturition	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	2	...	4	...	...	...	...	...	...	...	
28 Congenital Debility and Mal-formation, Premature Birth	1	...	1	...	5	1	4	1	7	2	2	1	...	...	1	1	...	1	3	3	...	...	3	3	16	10	5	6	2	7	2	1	1	...	6	1	
29 Suicide ... ..	...	...	1	...	3	1	...	...	1	...	2	...	...	...	2	...	1	...	2	...	...	1	1	1	3	1	2	...	2	4	...	...	...	...	1	...	
30 Other Deaths from Violence	...	...	1	...	5	6	...	2	5	3	4	...	...	1	4	2	1	...	3	4	...	...	2	...	9	5	...	2	6	2	5	2	...	...	2	...	
31 Other Defined Diseases ...	4	1	...	2	33	19	6	6	14	17	3	2	4	1	15	13	...	3	7	13	...	3	22	14	44	46	16	14	13	13	10	10	2	2	13	21	
32 Causes Ill-defined or Unknown...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Special Causes (included above)—																																					
Poliomyelitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Polioencephalitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
Deaths of Infants under 1 year of age	3	...	1	...	12	6	6	1	12	7	2	2	...	...	2	1	...	1	5	5	...	1	9	5	27	15	13	12	17	11	3	1	1	...	8	2	
Total Illegitimate ... ..	1	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	1	1	1	...	...	...	...	1	...	
TOTAL BIRTHS... ..	22	18	15	12	162	144	62	54	217	202	33	34	15	20	65	50	14	10	81	113	6	6	117	111	393	367	152	146	219	219	68	53	6	3	86	62	
Legitimate ... ..	19	18	14	12	154	135	62	54	211	198	30	33	13	20	64	50	13	10	80	106	6	5	112	108	379	362	146	142	214	216	66	47	6	3	83	60	
Illegitimate ... ..	3	...	1	...	8	9	...	...	6	4	3	1	2	...	1	...	1	...	1	7	...	1	5	3	14	5	6	4	5	3	2	6	...	...	3	2	
POPULATION ... ..	3069		2840		21780		8153		23723		5361		2978		10030		1871		14840		922		11990		47550		19380		17580		9898		1100		11900		



TABLE A.—Continued.

## VITAL STATISTICS FOR ALL DISTRICTS IN ADMINISTRATIVE COUNTY OF CHESTER, 1928.

CAUSES OF DEATH.	Hollingworth U.D.		Hoole U.D.		Hoylake and West Kirby U.D.		Hyde M.B.		Knutsford U.D.		Lymm U.D.		Macclesfield M.B.		Marple U.D.		Middlewich U.D.		Mottram-in-Longdendale U.D.		Nantwich U.D.		Neston and Parkgate U.D.		Northwich U.D.		Runcorn U.D.		Sale U.D.		Sandbach U.D.		
(Civilians only)	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES ... ..	17	9	28	31	98	90	214	237	35	28	23	29	214	265	37	42	35	19	19	25	53	46	34	35	111	97	122	79	107	106	36	20	
1 Enteric Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	
2 Small-pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
3 Measles ... ..	...	...	...	...	...	...	3	3	1	...	...	...	...	1	...	1	...	1	...	...	...	...	1	...	2	1	2	1	...	2	...	...	
4 Scarlet Fever ... ..	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
5 Whooping Cough ... ..	...	...	...	...	...	...	1	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	1	...	...	3	...	...	3	...	1	...	
6 Diphtheria ... ..	...	...	1	...	...	1	1	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	...	1	1	1	...	...	
7 Influenza ... ..	...	...	...	3	2	...	8	5	4	3	3	...	3	3	...	1	2	1	1	...	2	1	2	...	2	1	5	4	2	2	1	...	
8 Encephalitis Lethargica ... ..	...	...	...	...	1	...	...	1	1	...	...	...	...	4	...	...	...	...	...	...	...	1	...	...	2	1	...	1	1	...	...	...	
9 Meningococcal Meningitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
10 Tuberculosis of Respiratory System ... ..	1	...	2	1	5	5	10	11	3	1	3	2	12	13	3	3	2	2	...	...	2	4	2	1	7	1	6	1	12	6	...	1	
11 Other Tuberculous Diseases ... ..	...	...	...	1	3	1	1	2	...	1	...	1	8	4	1	...	...	1	...	...	5	...	1	2	...	2	1	1	1	1	1	...	
12 Cancer, Malignant Disease ... ..	2	1	2	5	15	7	29	30	5	2	2	5	22	39	5	5	6	2	5	5	7	5	1	5	12	14	17	12	11	19	4	4	
13 Rheumatic Fever ... ..	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	...	...	
14 Diabetes ... ..	...	...	...	1	...	...	3	7	1	1	...	2	4	4	...	...	...	...	2	...	1	...	...	...	1	...	...	1	2	2	...	...	
15 Cerebral Haemorrhage, &c. ... ..	1	2	2	2	4	8	12	15	1	1	2	3	7	13	...	1	...	1	2	1	4	2	3	2	8	10	8	5	4	2	2	1	
16 Heart Disease ... ..	4	3	8	4	15	22	52	51	3	5	4	5	34	47	5	11	5	...	4	5	8	10	3	15	19	24	15	14	10	14	3	1	
17 Arterio-sclerosis ... ..	3	...	2	1	14	14	24	15	4	2	3	2	16	21	9	5	5	1	...	2	2	...	5	2	6	2	15	6	13	13	...	...	
18 Bronchitis ... ..	...	1	1	1	2	2	12	12	1	1	3	...	8	16	1	3	3	2	...	2	3	5	2	...	4	1	5	2	6	5	...	...	
19 Pneumonia (all forms) ... ..	...	...	...	1	6	5	14	8	...	...	...	1	10	14	3	4	1	1	2	...	8	1	4	4	7	6	9	3	7	7	3	...	
20 Other Respiratory Diseases ... ..	...	...	...	...	2	...	...	1	...	1	1	...	3	2	...	2	1	...	...	...	1	1	...	1	...	...	1	4	1	3	...	...	
21 Ulcer of Stomach or Duodenum ... ..	...	...	1	...	3	1	3	...	...	1	...	...	3	2	...	...	...	...	...	...	1	...	...	...	1	...	3	1	2	...	1	...	
22 Diarrhoea, &c. (under 2 years)... ..	...	...	...	...	...	...	2	...	1	...	1	...	...	2	...	...	...	...	...	...	1	1	...	...	1	3	2	...	1	...	...	...	
23 Appendicitis and Typhlitis ... ..	...	...	1	...	...	...	1	1	...	...	...	...	2	...	...	1	...	...	1	...	...	2	...	...	1	...	...	1	1	...	...	...	
24 Cirrhosis of Liver ... ..	...	...	...	1	...	...	1	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	
25 Acute and Chronic Nephritis ... ..	1	...	1	...	3	1	9	15	2	1	...	...	7	9	3	1	...	1	...	...	2	...	1	1	1	3	4	1	7	6	4	2	
26 Puerperal Sepsis ... ..	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	
27 Other Accidents and Diseases of Pregnancy and Parturition ... ..	...	...	...	...	...	...	...	3	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	...	
28 Congenital Debility and Malformation, Premature Birth ... ..	...	...	3	2	1	2	9	5	3	1	1	3	13	3	1	1	2	1	1	1	2	3	2	...	6	5	4	3	6	2	2	1	
29 Suicide ... ..	...	...	...	...	1	1	3	2	...	...	...	...	2	1	...	...	...	...	...	1	1	...	...	...	2	...	3	...	1	...	2	...	
30 Other Deaths from Violence ... ..	...	...	...	2	4	2	7	7	1	...	1	...	8	7	...	1	2	...	1	1	3	...	3	1	5	2	6	...	1	2	1	2	
31 Other Defined Diseases ... ..	5	2	4	5	17	18	28	40	4	7	2	5	46	56	6	2	6	5	2	4	10	9	3	1	20	15	14	16	15	16	8	8	
32 Causes ill-defined or Unknown... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	
Special Causes (included above)—																																	
Poliomyelitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Polioencephalitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Deaths of Infants under 1 year of age ... ..	...	...	4	2	5	6	17	8	6	1	2	3	26	10	2	2	3	2	1	...	8	5	2	1	11	14	16	10	11	4	4	1	
Total Illegitimate ... ..	...	...	...	...	1	1	1	...	...	...	...	...	3	...	...	1	1	...	...	...	2	1	...	...	1	...	1	...	...	1	...	...	
TOTAL BIRTHS... ..	17	14	43	37	93	75	236	222	38	31	31	45	228	258	29	38	51	48	12	11	64	56	52	38	189	167	186	167	124	121	58	55	
Legitimate ... ..	16	13	42	35	87	69	223	212	35	28	31	43	213	246	27	36	49	47	11	11	60	54	52	37	184	160	184	162	119	116	55	55	
Illegitimate ... ..	1	1	1	2	6	6	13	10	3	3	...	2	15	12	2	2	2	1	1	...	4	2	...	1	5	7	2	5	5	5	3	...	
POPULATION ... ..	2345		5740		17790		32440		4945		5790		35000		6951		5646		2776		7148		5485		18870		18700		16460		6132		

TABLE A.—Continued.

## VITAL STATISTICS FOR ALL DISTRICTS IN ADMINISTRATIVE COUNTY OF CHESTER, 1928.

CAUSES OF DEATH.	Stalybridge M.B.		Tarporley U.D.		Wilmslow U.D.		Winsford U.D.		Yeardsley- cum-Whaley U.D.		Bucklow R.D.		Chester R.D.		Congleton R.D.		Disley R.D.		Macclesfield R.D.		Malpas R.D.		Nantwich R.D.		Northwich R.D.		Runcorn R.D.		Tarvin R.D.		Tintwistle R.O.		*Wirral R.D.		
(Civilians only)	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ALL CAUSES	166	179	14	19	46	54	57	61	11	11	121	124	65	68	68	68	25	18	106	101	33	20	133	155	152	145	180	129	85	78	14	10	132	128	
1 Enteric Fever																			1																
2 Small-pox																																			
3 Measles	2			2							1								1				1	3	1		1	1	1	1			1		
4 Scarlet Fever		1																					2												
5 Whooping Cough...	2	1							1		1	1	1										1	2			1	1						1	
6 Diphtheria	1											2													1	1									
7 Influenza	2	1	2	2				2			4	2	1	1	1	1		1	2	1			5	4	8	2	9	2	1	1			3	5	
8 Encephalitis Lethargica							1								1					3				1		1							1		
9 Meningococcal Meningitis	1																																		1
10 Tuberculosis of Respiratory System	9	10					3	4			1	6	2	3	6	2	1	1	6	7	1	1	6	3	8	9	10	9	2	2			14	7	
11 Other Tuberculous Diseases	1	3			1			1			2	1		1	1	2	1				1		2		2	3	2	4	2	3			1	2	
12 Cancer, Malignant Disease	11	22		3	4	11	5	7			14	19	8	11	9	7	2	5	9	23	4	2	12	30	12	19	22	23	10	9			16	13	
13 Rheumatic Fever	2						1	1				2			1																			2	
14 Diabetes	3	1	1	1		1	1			1	3	2				4			2	4			3	2	4	1	1	5	1	1			1	3	
15 Cerebral Haemorrhage, &c.	6	22		2	3	4	4	1			2	3	4	5	1	7	5		6	5	2		7	12	4	7	4	8	3	2	1	2	3	9	
16 Heart Disease	25	45	3	3	12	8	8	10	4	3	22	22	8	6	11	9	2	2	12	19	4	8	22	39	24	23	29	20	22	18	3	1	22	33	
17 Arterio-sclerosis	6	6	2	1	4	3	3	3	4		15	8	4	9	1	3	4		11	4	3		6	6	12	11	19	13	6	5	1	1	9	5	
18 Bronchitis	11	9			3	6	2	2			7	6	2	8	4	4	1	1	2		1		7	6	5	6	6	5	1	1			5	6	
19 Pneumonia (all forms)	19	9	1		1	5	7	4	2		7	1	13	2	3			2	11	2	3	2	9	6	10	8	10	8	2	5			9	7	
20 Other Respiratory Diseases	2	2		1	2						1	2	1				1		2				2	2	1	3	3		1	1			2	1	
21 Ulcer of Stomach or Duodenum	2				1		1					1	1							3			2	2	4	1	3		2				1		
22 Diarrhoea, &c. (under 2 years)	2							1					2						1	1						1							1	1	
23 Appendicitis and Typhlitis								2			2	2	2		1				1	1			3		3		4		1						
24 Cirrhosis of Liver					1						2								1		1		1				2			1				1	
25 Acute and Chronic Nephritis	14	3	1	2	4	2	2	7			7	7	3	2	2	3		1	5	3	3	1	4	4	6	5	4	5	3	1	1	1	4	3	
26 Puerperal Sepsis		2						1																		3									
27 Other Accidents and Diseases of Pregnancy and Parturition		1										3		1		1		1						2		2		2		1				1	
28 Congenital Debility and Malformation, Premature Birth...	6	4	1		2		3	3		1	6	6	2	3	2	6			3	1	2	3	5	5	5	3	5	4	3	7		1	4	3	
29 Suicide	4				1		2			1	4	5			1				1	2	1		2		2		4		1				1	2	
30 Other Deaths from Violence	8	4			2	2	2				8	5	3		5	1	2		5	1	2	1	5		9	4	9	3	5	1	1		12	3	
31 Other Defined Diseases	27	33	3		5	12	12	12		5	15	21	8	16	18	18	6	4	22	17	5	1	30	27	26	30	33	16	17	18	7	4	22	19	
32 Causes ill-defined or Unknown																						1				1									
Special Causes (included above)—																																			
Poliomyelitis																							1					1							
Polioencephalitis																																		1	
Deaths of Infants under 1 year of age	16	7	2	4	2		7	3	2	2	12	7	9	5	2	8			9	2	4	3	8	10	17	11	13	5	8	7		1	11	6	
Total Illegitimate	1		1		1		1				3	2				1			1		1				1	1	1								
TOTAL BIRTHS...	180	172	15	15	63	45	98	82	14	7	175	177	121	117	96	111	22	14	147	118	38	45	199	204	210	178	233	201	108	114	16	11	219	212	
Legitimate	170	165	14	14	60	42	94	79	13	7	168	169	118	113	91	109	22	14	145	113	36	42	191	199	201	176	225	195	103	108	16	11	210	204	
Illegitimate...	10	7	1	1	3	3	4	3	1		7	8	3	4	5	2			2	5	2	3		5	9	2	8	6	5	6			9	8	
POPULATION	24580		2427		9436		11300		1617		24760		15870		13260		3093		19330		4432		26400		26260		30580		13480		2055		30620		

\* The Births and Deaths exclude those in the transferred area from 1st April, 1928.



TABLE B.

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE IN THE ADMINISTRATIVE  
COUNTY OF CHESTER, 1928.

CAUSES OF DEATH.	Sex.	AGGREGATE OF URBAN DISTRICTS.										AGGREGATE OF RURAL DISTRICTS.									
		All Ages	0—	1—	2—	5—	15—	25—	45—	65—	75—	All Ages	0—	1—	2—	5—	15—	25—	45—	65—	75—
ALL CAUSES ... ..	M	2704	268	45	59	67	100	274	766	646	479	1114	93	14	34	26	43	119	285	259	241
	F	2658	155	40	54	83	106	307	677	604	632	1044	65	13	22	22	32	119	257	210	304
1. Enteric fever ... ..	M	3	...	...	...	...	...	3	...	...	...	1	...	...	...	...	...	1	...	...	...
	F	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...
2. Small-pox ... ..	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	F	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Measles ... ..	M	20	5	7	5	2	...	...	...	1	...	7	2	2	3	...	...	...	...	...	...
	F	18	4	6	5	3	...	...	...	...	...	4	1	1	...	2	...	...	...	...	...
4. Scarlet fever ... ..	M	3	...	1	...	2	...	...	...	...	...	2	...	...	1	...	...	1	...	...	...
	F	9	...	...	5	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Whooping cough ... ..	M	15	8	2	4	1	...	...	...	...	...	5	4	...	1	...	...	...	...	...	...
	F	17	6	6	4	...	1	...	...	...	...	4	3	...	1	...	...	...	...	...	...
6. Diphtheria ... ..	M	16	...	...	2	12	...	...	1	1	...	1	...	...	...	1	...	1	...	...	...
	F	13	...	2	6	5	...	...	...	...	...	3	1	...	...	1	...	...	...	...	...
7. Influenza ... ..	M	76	1	...	6	2	3	21	26	12	5	34	...	...	1	2	5	7	13	5	2
	F	63	...	1	4	5	3	10	19	12	9	20	...	...	...	...	...	5	4	5	5
8. Encephalitis lethargica ... ..	M	8	...	...	...	1	1	4	2	1	...	2	...	...	...	...	1	1	...	...	...
	F	13	...	...	...	1	2	6	2	2	...	5	...	...	...	1	...	3	1	...	...
9. Meningococcal meningitis ... ..	M	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	1	...	...
	F	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...
10. Tuberculosis of respira- tory system ... ..	M	157	...	...	2	4	23	64	56	7	1	57	...	...	...	2	8	28	16	3	...
	F	117	...	...	1	2	34	57	20	3	...	50	...	...	...	2	12	20	15	1	...
11. Other tuberculous diseases ... ..	M	43	10	9	7	1	4	7	4	1	...	14	3	1	8	2	2	1	4	...	...
	F	45	4	2	6	9	12	10	2	...	...	16	2	2	3	2	2	1	...	...	...
12. Cancer, malignant disease ... ..	M	315	...	...	...	...	1	18	145	108	43	118	...	...	1	...	...	4	48	47	18
	F	345	...	1	...	2	1	38	161	95	47	161	...	...	...	1	...	16	67	46	31
13. Rheumatic fever ... ..	M	11	...	...	...	1	5	2	2	1	...	1	...	...	...	1	...	...	...	...	...
	F	16	...	...	...	6	2	7	...	...	1	4	...	...	...	1	2	...	1	...	...
14. Diabetes ... ..	M	25	...	...	...	...	1	2	7	13	2	15	...	...	1	...	...	1	3	7	3
	F	44	...	...	...	...	...	...	16	22	6	22	...	...	...	...	...	...	8	11	3
15. Cerebral hæmorrhage, &c. ... ..	M	118	...	...	1	...	...	3	33	44	37	42	...	...	...	...	...	1	12	14	15
	F	161	...	...	...	...	...	8	46	49	58	60	...	...	...	...	...	3	12	22	23
16. Heart disease ... ..	M	409	...	...	...	4	10	26	137	138	94	181	...	...	1	1	3	12	51	60	53
	F	534	...	...	1	4	12	41	166	174	136	200	...	...	1	2	...	11	52	54	80
17. Arterio-sclerosis ... ..	M	231	...	...	...	...	...	2	41	101	87	91	...	...	...	...	...	15	35	41	...
	F	166	...	...	...	...	...	2	31	49	84	65	...	...	...	...	...	6	17	41	...
18. Bronchitis ... ..	M	122	19	1	3	...	3	2	31	29	34	41	5	1	...	...	...	1	4	12	18
	F	129	4	3	2	1	...	2	15	35	67	43	2	...	...	...	1	6	5	28	...
19. Pneumonia (all forms) ... ..	M	184	33	16	9	9	7	26	49	21	14	77	20	5	5	2	2	12	14	10	7
	F	131	16	5	10	13	7	16	19	28	17	43	3	6	6	2	...	9	6	3	8
20. Other respiratory diseases ... ..	M	20	1	...	...	1	...	1	11	4	2	14	1	...	...	1	...	1	3	4	4
	F	28	4	1	1	1	1	5	6	1	3	9	1	...	...	1	2	...	2	...	3
21. Ulcer of stomach or duodenum ... ..	M	36	...	...	...	...	1	10	19	4	2	13	...	...	...	...	1	2	8	1	1
	F	11	...	...	...	...	...	3	7	1	...	7	...	...	...	...	...	2	4	...	1
22. Diarrhœa, &c. ... ..	M	32	23	3	...	...	1	2	1	...	2	10	3	1	2	...	...	3	1	...	...
	F	28	10	7	2	...	1	1	1	5	1	8	3	...	1	...	...	2	2	...	...
23. Appendicitis and typhlitis ... ..	M	17	...	...	2	2	5	...	5	2	1	17	1	...	2	1	4	4	2	3	...
	F	13	...	...	...	2	2	2	2	4	1	3	...	...	...	1	...	1	...	...	1
24. Cirrhosis of liver ... ..	M	14	...	...	...	...	...	1	10	3	...	7	...	...	...	...	...	1	5	...	1
	F	4	...	...	...	...	...	...	3	1	...	2	...	...	...	...	...	2	...	...	...
25. Acute and chronic... nephritis ... ..	M	112	...	...	...	2	3	8	48	37	14	42	1	...	...	...	1	3	13	16	8
	F	100	...	...	...	2	3	16	33	29	17	36	...	...	...	...	...	5	15	12	4
26. Puerperal sepsis ... ..	M	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	F	13	...	...	...	...	...	9	...	...	...	3	...	...	...	...	...	3	...	...	...
27. Other accidents & diseases of pregnancy & parturition ... ..	M	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	F	22	...	...	...	...	8	14	...	...	...	14	...	...	...	...	2	12	...	...	...
28. Congenital debility and malformation, premature birth. ... ..	M	127	125	...	1	...	...	1	...	...	...	37	35	...	1	1	...	...	1	...	...
	F	81	78	...	...	2	1	...	...	...	...	42	39	...	...	1	1	...	...	...	...
29. Suicide ... ..	M	45	...	...	...	...	2	8	24	7	4	17	...	...	...	...	1	5	8	2	1
	F	12	...	...	...	...	2	7	3	...	...	9	...	...	...	...	...	3	...	1	...
30. Other deaths from violence ... ..	M	102	2	1	7	12	13	23	18	17	9	66	1	3	6	3	6	19	18	7	3
	F	62	2	4	2	8	2	7	12	15	10	19	1	...	2	1	1	1	3	3	7
31. Other defined diseases ... ..	M	437	41	5	10	12	16	40	92	93	128	203	17	1	8	9	10	15	45	32	66
	F	460	27	2	5	14	6	45	112	79	170	186	9	3	6	4	9	17	41	28	69
32. Causes, ill-defined or unknown ... ..	M	5	...	...	...	...	...	...	4	1	...	2	...	...	...	...	...	2	...	...	...
	F	1	...	...	...	...	...	...	1	...	...	2	...	1	...	...	...	...	1	...	...



## TABULAR STATEMENT

prepared from figures supplied by the Registrar General for the various Sanitary Districts in the Administrative County of Chester for the year ending 31st December, 1928.

SANITARY DISTRICTS	Population at Census, 1921.	Population supplied by Registrar General, 1922.	Area in Acres.	Illegitimate Births.	Births.	Birth- rate per 1000 Living.	Deaths.	Death- rate per 1000 Living.	Deaths from										Deaths under one year.	Deaths under one Year to 1000 Births.	Is Hospital Isolation for Infectious Diseases provided ?	Name of Medical Officer of Health.
									Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Deaths from Principal Zymotic Diseases.	Principal Zymotic Diseases. Death-rate.					
Column Number ...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
MUNICIPAL BOROUGHS.																						
Congleton ... ..	11762	11590	2572	8	228	19.0	186	15.5		3		2	1		3	9	.75	14	61	Yes. West Heath Joint	Dr. Davidson.	
Crewe ... ..	46497	47550	2184	19	760	15.9	535	11.2				6	2		3	16	.82	42	55	Yes. Crewe.	Dr. Ingram.	
Dukinfield ... ..	19509	19380	1407	10	298	15.3	285	12.1		1		1	2	1	3	8	.41	25	83	Yes. Hyde.	Dr. J. R. S. Park	
Hyde ... ..	33424	32446	3079	23	458	14.1	481	13.9		6	1	2	1		2	12	.36	25	54	Yes. Hyde.	Dr. J. M. Gibson	
Macclesfield ... ..	33846	35001	3214	27	486	13.8	479	13.6		1	1	1	3		2	8	.22	36	74	Yes. Macclesfield.	Dr. J. H. Marsh.	
Stalybridge ... ..	25216	24580	3132	17	352	14.3	345	14.0		2	1	1	3		2	9	.36	23	65	Small-pox only, Hartshead.	Dr. W. J. Hancock	
	170254	170940	15588	104	2582	15.1	2231	13.0		13	5	13	16	1	14	62	.36	165	63			
OTHER URBAN DISTRICTS.																						
Alderley Edge ... ..	3088	3069	678	3	40	13.0	32	10.4										3	75	Yes. Monsall.	Dr. Baxter	
Alsager... ..	2693	2840	2241	1	27	9.5	32	11.2										1	37	Yes. West Heath Joint	Dr. Harpur.	
Altrincham ... ..	20450	21780	1425	17	376	14.0	277	12.7		7	1	2	3		1	14	.64	18	58	Yes. Altrincham.	Dr. Reid Duncan	
Ashton-upon-Mersey ... ..	7773	8153	1623		116	14.2	92	11.2		2					2	4	.49	7	60	Yes. Monsall.	Dr. Scott	
Bebington & Bromborough ... ..	19104	23720	3446	10	419	17.6	212	8.9								14	.59	19	45	Yes. Wirral Joint.	Dr. J. B. Yeoman.	
Bollington ... ..	5094	5361	1291	4	67	12.4	54	10.0							1	2	.37	4	59	Yes. Macclesfield.	Dr. Chadwick	
Bowdon ... ..	2965	2978	850	2	35	11.7	34	11.4											0	Yes. Altrincham.	Dr. Melland	
Bredbury and Romiley ... ..	9168	10080	3990	1	115	11.4	133	13.2							1	4	.39	8	26	Yes. Hyde.	Dr. F. Cant.	
Buglawton ... ..	1572	1871	2911	1	24	12.8	13	6.9										1	41	Yes. West Heath Joint	Dr. P. M. Davidson	
Cheadle and Gatley ... ..	11036	14840	5087	8	194	13.0	139	9.3		1				1	2	4	.26	10	51	Yes. Monsall and Small-pox Hospital.	Dr. J. H. Godson.	
Compstall ... ..	944	922	903	1	12	13.0	10	10.8										1	33	Yes. Hyde.	Dr. A. Jackson	
Ellesmere Port & Whitby ... ..	13063	17580	3449	8	438	24.9	149	8.4		1	2		1		5	9	.51	28	63	Yes. Wirral Joint.	Dr. J. B. Yeoman.	
Hale ... ..	9300	9398	1288	8	121	12.2	101	10.2										4	33	Yes. Monsall.	Dr. Lund.	
Handforth ... ..	904	1100	1311		9	8.1	15	13.6										1	111	No.	Dr. A. Nowell.	
Hazel Grove and Bramhall ... ..	10127	11900	5447	5	148	12.4	141	11.8				1			2	.17	10	67	Yes. Hyde.	Dr. Thos. Moore.		
Hollingsworth ... ..	2466	2345	2086	2	31	13.2	26	11.0										0	Small-pox, Mottram Moor.	Dr. R. Pomfret Wyld		
Hoole ... ..	5994	5740	334	3	80	13.9	59	10.2					1		1	.17	6	75	Yes. Chester.	Dr. F. J. Butt.		
Hoylake and West Kirby... ..	17068	17790	1797	12	168	9.4	188	10.5				1				1	.05	11	65	Yes. Wirral Joint.	Dr. J. B. Yeoman.	
Knutsford ... ..	5415	4945	1760	6	69	12.9	63	12.7		1					1	2	.40	7	101	Yes. Monsall.	Dr. Blease.	
Lymm ... ..	5233	5790	4374	2	76	13.1	55	9.4							1	1	.17	5	65	Yes. Lymm.	Dr. Bennett.	
Marple ... ..	6608	6951	3055	4	67	9.6	79	11.3		1					1	1	.14	4	58	Yes. Hyde.	Dr. Jackson	
Middlewich ... ..	5115	5646	1082	3	99	17.5	54	9.5		1						1	.17	5	50	Yes. Northwich Joint and Marbury	Dr. S. L. Melville.	
Mottram-in-Longdendale... ..	2883	2776	1084	1	23	8.2	44	15.8										1	43	Yes. Hyde & Small-pox, Mottram Moor	Dr. G. J. Awburn.	
Nantwich ... ..	7296	7148	703	6	120	16.7	109	15.2							2	3	.41	13	108	Yes. Alvaston Joint.	Dr. J. D. Munro.	
Neston and Parkgate ... ..	5195	5485	3351	1	90	16.4	69	12.5		1						2	.36	3	33	Yes. Wirral Joint.	Dr. J. B. Yeoman.	
Northwich ... ..	18381	18870	1398	12	356	18.8	208	11.0		3		1	5	1	4	12	.63	25	70	Yes. Northwich Joint and Marbury.	Dr. H. E. Gough.	
Runcorn ... ..	18476	18700	1274	7	353	18.8	201	10.7		3					2	6	.32	26	73	Yes. Runcorn.	Dr. Cullen.	
Sale ... ..	16329	16460	2006	10	245	14.8	213	12.9		2		2	3		1	8	.48	15	61	Yes. Monsall.	Dr. H. Mial Woodhead	
Sandbach ... ..	5864	6132	2694	3	113	18.4	56	9.1								1	.16	5	44	Yes. West Heath Jt. & Avelid for Small-pox.	Dr. R. Riddell.	
Tarporley ... ..	2518	2427	6195	2	30	12.3	33	13.5		2						2	.82	6	200	Yes. Chester.	Dr. W. E. Burton.	
Wilmslow ... ..	8282	9436	5090	6	108	11.4	100	10.5										2	18	Yes. Monsall.	Dr. A. Byers.	
Winsford ... ..	10956	11300	5778	7	180	15.9	118	10.4							1	1	.08	10	55	Yes. Davenham and Marbury.	Dr. L. J. Picton	
Yeardsley-cum-Whaley ... ..	1699	1617	1323	1	21	12.9	22	13.6					1			1	.61	4	190	Yes. Hyde and High Peak.	Dr. F. G. Allan.	
	263109	285600	81486	157	4300	15.0	3131	10.9		25	7	16	16	3	29	96	.33	258	60			
RURAL DISTRICTS																						
Bucklow ... ..	22149	24760	56806	15	352	14.2	245	9.8								5	.20	19	53	Yes. Monsall.	Dr. Blease.	
Chester ... ..	13365	15870	34253	7	238	15.2	133	8.5		1		2	2			3	.18	14	58	Yes. Chester.	Dr. W. E. Burton.	
Congleton ... ..	13219	13260	40152	7	207	15.6	136	10.2					1		2			10	48	Yes. West Heath Joint.	Dr. C. H. Wentworth-Bennett	
Disley ... ..	3022	3093	2466		36	11.6	43	13.9											0	Yes. Hyde.	Dr. G. B. Pemberton	
Macclesfield ... ..	17045	19330	79494	7	265	13.7	207	10.7		1					1	2	.20	11	41	Yes. Macclesfield and Higher Sutton	Dr. R. Proudfoot	
Malpas ... ..	4465	4432	21405	5	33	18.7	53	11.9										7	84	Yes. Chester. [for Small-pox.	Dr. W. E. Burton.	
Nantwich ... ..	25015	26400	98466	13	403	15.2	288	10.9		1	2		1			4	.15	18	44	Yes. Nantwich Joint and Small-pox.	Dr. R. T. Turner	
Northwich ... ..	24436	26260	54307	11	388	14.7	237	11.3		4		2	2		1	9	.34	28	72	Yes. Northwich Joint.	Dr. Crow	
Runcorn ... ..	28934	30580	49117	14	454	14.1	309	10.1		1			1			2	.06	18	41	Yes. Dutton. Moore (Small-pox).	Dr. Manson	
Tarvin ... ..	13393	13480	56871	11	223	16.4	163	12.0		2						3	.22	15	67	Yes. Chester	Dr. W. E. Burton	
Tintwistle ... ..	2071	2055	13619		27	13.1	24	11.6										1	37	Yes. Mottram Moor.	Dr. G. J. Awburn	
Wirral ... ..	24753	27220	36761	17	431	14.0	260	8.4		1			1		2	4	.14	17	39	Yes. Wirral Joint.	Dr. J. B. Yeoman.	
	191864	206740	543717	107	3086	14.6	2158	10.2		11	2	4	9	1	7	34	.16	158	51			
Administrative County ...	625227	663280	640791	368	9968	14.9	7520	11.4		49	14	33	41	5	50	192	.28	581	58			



# Administrative County of Chester.

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## APPENDIX TO STATISTICS FOR 1928.

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TABLE A.—Vital Statistics for all Districts in  
the Administrative County of Chester.

TABLE B.—Causes of Death at Different Periods  
of Life in the Administrative County of  
Chester, 1928.

TABLE C.—Population, Area, Births, Deaths,  
&c.—

Showing enumerated and estimated population, area,  
births and deaths, birth rates and death rates, proportion  
of deaths of Infants to births, deaths from several principal  
zymotic diseases and corresponding death rates.